

A  
L E T T E R  
F R O M

*Dr. Patrick Blair*  
(Fellow of the ROYAL SOCIETY)

T O  
*Doctor Baynard.*

Containing some considerable Improve-  
ments concerning the Use of COLD  
BATHING.

To which are added several very remarkable  
Observations in the Practice of PHYSICK,  
ANATOMY, SURGERY and BOTANY.

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Formerly communicated, and now humbly dedi-  
cated to the ROYAL SOCIETY.

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L O N D O N;

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*Cornhill*, and *William Innys* at the *Princes-arms*  
in *St. Paul's Church-yard.* 1717.



# REPORT

FOR

THE YEAR 1880

OF THE

U. S.

DEPARTMENT OF AGRICULTURE

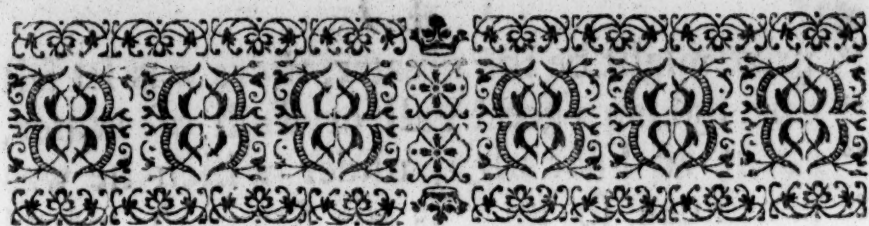
CONTAINING THE REPORT OF THE  
COMMISSIONER OF AGRICULTURE  
AND THE REPORT OF THE  
SPECIAL AGENTS

FOR THE YEAR 1880  
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WASHINGTON: 1881

U. S. GOVERNMENT PRINTING OFFICE



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HEN about Two Years ago I was at *Lichfield*, I waited on Sir *John Floyer*, who unexpectedly shew'd me Two Observations in your Appendix concerning the Use of the Cold Bathing, which I formerly had communicated to my worthy Friend the Ingenious Mr. *James Petiver*: Since you have been pleas'd to publish them, I have thought fit to salute you by these, to repeat the same Observations, and to add what further Improvements my long Experience in the Practise of the Cold Bathing has taught me, to be worthy of Observation.

I. " There was a Man so raving Mad, that  
" he was bound in Fetters ; having first tried  
" all Evacuations, usual in such Cases, toge-  
" ther with Opiats in great Quantity, but to  
" no purpose, I at length plung'd him *ex im-*  
" *proviso* into a great Vessel of cold Water, and  
" at the same time throwing with great Vio-  
" lence, Ten or Twelve Pails full of cold Wa-  
" ter on his Head ; but that not succeeding, the  
" next Day, having the Conveniency of a Fall  
" of Water, about half a Mile off, I caus'd him  
" to be placed in a Cart, and strip'd from his  
" Cloaths; and, being blindfolded, that the Sur-  
" prize

“ prize might be the greater, there was let fall  
 “ on a sudden a great Fall or Rush of Water,  
 “ about 20 Foot high, under which he was  
 “ continued so long as his Strength would  
 “ well permit: This succeeded so well, that  
 “ after his return home, he fell into a deep  
 “ Sleep for the space of 29 Hours, and  
 “ awaken’d in as quiet and serene a State of  
 “ *Mind* as ever, and so continues to this Day,  
 “ it being now about 12 Months since; but  
 “ in some *hypocondriac* and *paralytick* Cases,  
 “ I have not found it to succeed so well.

II. “ There was a Boy, about 13 Years of  
 “ Age, seiz’d with a *Paraplegia*, who after se-  
 “ veral vain Attempts in hot-dry, and hot-wet  
 “ Baths, *Semi-Cupiums*, &c. was totally de-  
 “ priv’d of the Use of his Limbs, and also e-  
 “ maciated, at length had recourse to the cold  
 “ Immersion, whereby some small Symptoms  
 “ of Recovery began to appear: His Parents,  
 “ desiring farther Advice, brought into Consul-  
 “ tation with me the learned Dr. *Pitcarne* of  
 “ *Edinburgh*, unto whom I wrote, that all the  
 “ Hopes I had of recovering him, was by pro-  
 “ ceeding in the cold Regimen of Bathing, as  
 “ he was now in: Of which the Doctor ap-  
 “ proved; but farther advised the Cataract, or  
 “ fall of Water, from a Mill, to which I con-  
 “ sented; it appearing reasonable, *à majori*,  
 “ from the greater Force and Pressure; so  
 “ placing the Boy under the Descent of the  
 “ Water-fall about 12 or 14 Foot high, that  
 “ the



“ the Water’s greatest Force might fall upon  
 “ that Part which I suspected to be the Weak-  
 “ est, and keeping him under it about the space  
 “ of 3 Minutes the first time, and so daily  
 “ lengthning the time to Seven or Eight Mi-  
 “ nutes, allowing some few Intervals in this  
 “ *cataraetical* Course; the Boy, in a very little  
 “ time, recover’d, and was as brisk and nimble  
 “ as ever he was in his Life.

We find when a Person has been much ex-  
 pos’d to Cold, in the Winter time, and that  
 the frosty Air has blown full in his Face, he  
 no sooner enters a House than he observes his  
 Face seiz’d with a flushing of Heat; it first  
 begins with a smarting Sensation, as it were a  
 medium, betwixt Pleasure and Pain, then do’s  
 the Heat become more intense, till once the  
 Blood having penetrated the Pores of the ob-  
 structed Capillaries acquires a more free Cir-  
 culation, which when obtain’d, we find this  
 Sensation of Heat to decay apace. When one  
 has been travelling a Horse-back in a cold  
 frosty Day, he is chill’d by Degrees, until his  
 Extremities are quite benumm’d, when he re-  
 tires from the Cold and goes to a warmer  
 Place, the first thing he observes is a certain  
 dull heavy tensive Pain, not without confi-  
 derable uneasiness, which begins at the upper-  
 most of the benumm’d Part, and gradually de-  
 scends to the Extremity of either the Fingers  
 or Toes, upon which follow, first, an In-  
 tense, then a more gentle Heat, till the Blood  
 has

has forc'd its way, the Diameters of the Capillaries there have acquir'd their natural Capacity, and the Pores are enlarg'd to a convenient bigness for the more free transmission of the transpiring Particles. When Children and School Boys have for some time diverted themselves with the throwing of Snow Balls : At their first handling the Snow it affords a certain smarting and benumbing Sensation ; but a little after they have the Idea of a pretty intense Heat, though if another at the same time should feel the Hand of such an one, he can perceive no such Heat as that Person complains of, but rather a Coldness and Moistness. When one has lain down in a Bed in a cold Winter Night, if the Bed has not been warm'd, he's frightened with the Coldness and Chilliness in the Sheets at first, but when he has put his Body in a quiet Posture, he, within a little, observes a gentle Heat seize all his Body by degrees ; and when People either go into, or place any of their Members among the cold Water, so soon as the Coldness is over a gentle and sometimes more intense Heat succeeds.

These natural Consequences of the cold Air, Snow and Water, are sufficient methinks to instruct us, after what manner the Cold Bathing should be practis'd, and therefore Sir, I wish both Sir *John Floyer*, and you, had taken more Pains to shew how it should be made Use of in the several Cases wherein it's usually

usually prescrib'd ; For *Corruptio optimi pessima*, let any Institution be it never so good be once abus'd, or any Remedy though the most suitable to the Purpose be misapply'd ; then this Institution and that Remedy, will be so far from being attended with the propos'd Advantages, that they are for the most part succeeded with the greatest Disadvantages, just so in the cold Bathing. It's certainly one of the best of Remedies, if suitable to the Disease, and rightly apply'd ; but if on the contrary it be apply'd when the Disease will not admit of it, and if the Application of it be not rightly gone about, then its Consequences are generally very bad.

In order then to perswade to the Use, and to direct to the right Application of it, I shall begin with Infants ; there is nothing can conduce more towards the rendering them Healthful, Strong and Robust, than the beginning very early to Wash, nay to Plunge, them among the cold Water, and to continue in the constant Use of this every Day ; this is what renders the *Scotch* Highlanders so Healthful, and so capable to endure the most excessive Cold. And this is what every Person, if they have a mind to try it, may be sensible of from their own Experience ; for as we see, that though the Cuticula of the Face be the thinnest of any, though there be proportionally a greater quantity of nervous Filaments and capillary Blood Vessels dispers'd in the Cutis of  
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the Face, than in any other Part of the Body, yet by its being always expos'd to the Air we are capable to endure more Cold in the Face than in any Part of the Body ; so that if Decency and Modesty would permit us to go altogether naked, we should be much more capable to resist the Injuries of the Air, than we are after the using of Cloaths, unless we would accustom our selves to the continual Use of Bathing in the cold Water. For this is a certain Advantage that attends it in Infants, it renders the Fibers of their slender and grizzly Bones more Compact, Firm and Solid ; it contracts the Pores of the Skin so far, as to prevent any extraordinary exhausting of the Spirits in the insensible Transpiration, by which the Blood continues to Circulate more freely, and all our Faculties both of Soul and Body exert themselves more easily ; for since it's from too great exhausting of the Spirits that a Dulness and Weariedness proceeds ; so whatever prevents the preternatural Evaporation of these Spirits and other Fluids in our Body, that is the best mean to continue us vigorous and of a chearful Temper. And that the constricting of the Pores is the natural Effect of the cold Bathing, appears plainly from that easy gentle Heat of our Body after the Coolness is over, proceeding from the Blood's making its way with the greater force through the straitned Extremities of the Capillaries, as is observ'd. For *Calor consistit in vehementi*

*menti motu particularum*, and it's according as this *motus particularum sanguinis*, is unusually augmented, that we have a greater or lesser *idea Caloris*, and the Blood is so much the more enabled thus to encrease in its Motion, because what Spirits and other Fluids would have otherwise been transpir'd, are now retain'd in the Mass of the Blood, being stop'd in their Evaporation by the Element of Water surrounding our Body, instead of that of Air.

Thus I think I have accounted how the cold Bathing becomes beneficial to us, by preventing an extraordinary *dispendium* of the Spirits, and by being the mean of retaining 'em within the Blood, thereby to render us more Lively and Vigorous, and from this I can account, for all the good Effects are produc'd by the cold Bathing: For whereas by keeping Children too Warm, their Pores are too much dilated, their Spirits too much evaporated, the Fibers of their Skin and Muscles are rendered too flaccid, and they become Dull, Heavy and Feeble, uncapable to stir and move about; and this want of Exercise, together, perhaps with the bad choice of their Food, (which is often too heavy for their weak and tender Stomachs,) is the Cause that their Humors become too gross and viscous, from whence proceed the various Distempers they are affected with, particularly the *Rickets*, whose Cure chiefly consists in attenuating these viscosities in their Stomach. (for generally in this Distemper

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their Appetite is both vitiated and irregular.) And in frequent cold Bathing, whereby their muscular Fibers receive a better tone, acquire a better *resort*, spring or elasticity, and are more capable of Motion, in which they are assisted by the Spirits being retain'd and not disproportionally evaporated. And as I have had several Years Experience in the Diseases of Children, and applied my self particularly to that Part of the Practise of Physick, so I never yet observ'd, that if the Nurse was careful to keep the Child clean, if it receiv'd a moderate Dyet, at seasonable Times of the Day, and was plung'd into cold Water every Morning, being well dried and rubbed down afterwards, that such a Child was thereafter affected with the Rickets.

I shall not swell this Letter with the recital of the various Observations I have made in my Practise upon the Distempers of Children, especially in the Cure of the Rickets; let it suffice to tell you, that they have been recommended to my Care, who have been afflicted with a great variety of Symptoms of the same Distemper, such as having their Head a third part more large than the natural Proportion, the Coronal Bone divided from the Coronal Suture to the Root of the Nose, and the *Fontinelle* or *Bregma*, much larger and longer open than usual; their Brow broad and large; their Eyes sunk; their Nose sharp; their Cheeks flat,  
and



and lower Jaw drawn in narrow to the point of the Chin, in those who never had any Teeth, or if they had, they were fallen out; their Clavicles big at each Extremity and often distorted; the Sternum narrow as that of a Capon, with the Ribs on each Side bended inwards, straitning the Lungs so as they could not sufficiently *expand* themselves, from whence proceeded a quickness of Respiration and difficulty of Breathing; their Belly big and hard, having sometimes a great Looseness, and at other times more constipated, Two or Three *Vertebrae* of the Loins sensibly protuberant, and the Interstices between them (where we are said to bend our Back) so flexible, that they could not be kept in an erect Posture; their Limbs emaciated, and Legs often distorted. All these I have observed as the Symptoms of that we call the Bowel Rickets, being still accompany'd with a continual and irregular Appetite: On the other Hand I have observed them of a fresh sanguine Colour seemingly Fleshly and Strong, but when arriv'd at the Six or Seventh Month of Age so feeble, that they could not put a Foot to the Ground, nor be any ways made to stand upright; after which, when it was expected their Teeth would appear, nothing of them is to be seen; and now their Colour becomes faded, their Flesh flaccid and loose, all their Joints inordinately big, their whole Body so Feeble that they cannot move, when any Part is touch'd they fall a crying;

their Appetite and Digestion bad : And this is what they call the Joint Rickets. And here I must observe, that as the Fashion or Mode of other things vary in process of Time, so it would seem Diseases do so too ; *Pandora's* Box seems daily to send forth a new supply. When first I began to have Experience in these Diseases of Children, which was betwixt Twenty and Thirty Years ago, the Joint Rickets was that which I chiefly observ'd to affect the Children, scarce any thing of the Bowel Rickets was then to be seen ; now on the contrary, though the Joint Rickets do sometimes happen, yet the Bowel Rickets are by far the more frequent.

The Cure of both chiefly consists in rectifying bad nutritious Juices, and in evacuating and altering the vicious Humours, for the Fibers of their Stomach not having acquir'd their natural Tone, what Food they take is not sufficiently attenuated nor prepar'd, for its being converted into Chyle, and undergoing the several Secretions throughout the Body, the Particles remain Gross and Viscous, the Humours become so vitiated that they are no ways adapted for Nutrition, so that they become a *fomes* to such Distempers as are the Rickets and the like ; and when once this Viscosity begins to infest the Stomack, then it is that all the Aliments receiv'd do acquire that same vitiated Texture, with the Humours with which they  
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are mix'd, and instead of nourishing the Body, they nourish the Diseases in the Body.

To remedy all this, the Method I always found most effectual was ; if the Child was Weak and Feeble, though seemingly Sanguine and Fleishy, to take some Blood in the Jugular, that the Quantity being diminish'd, the remainder might circulate the more freely, be the better attenuated, and the different Secretions from it might be the more easily perform'd. 2<sup>dly</sup>, To apply either a Setton in the Neck, or Issue either in Neck or Arm, for a gradual Evacuation of what noxious Humours were already in the Blood. Or 3<sup>dly</sup>, The applying of a Vesicatory to the Neck : All these Three may be omitted if the Child is emaciated and of a thin Constitution ; but in the next Place it is highly requisite to evacuate the noxious Humours in the Stomach, by a gentle Emetick proportioned to the Strength of the Patient ; for though Purgatives serve to carry off the Humours, yet I rather advise to make the Evacuation *per superiora* first, before any Endeavour was made to cleanse the rest of the *primæ viæ*, for by giving the Purgative rather than the Emetick first, the Humours may be carried down in too great an abundance and threaten a Diarrhea, which may be of bad Consequence in heavy and humorous Children, whereas by first evacuating what Humours are contain'd in the Stomach, those that remain in the Intestines may



may afterwards be more gradually carried downwards without any eminent Hazard, but all these must be committed to the prudent Management of these concern'd : The next thing is to have recourse to Aromaticks and Stomachicks, such as may be suitable for the Child's Palate and Strength, that the remaining viscuous Humours in the Stomach and Intestines may be attenuated, that so the Blood being rendred more subtile, the several Operations in the Body, such as Nutrition and the other Secretions, may be more regularly perform'd.

And now it is time to betake to the cold Bathing, where in the General it is to be observed, that where the Patient has not been accustomed to it, the previous general Evacuations of Bleeding, Vomiting and Purging, are requisite, but still with a due Regard to the Constitution and Circumstances of the Patient. Thus in Children, if either Mother or Nurse have neglected to wash them well with cold Water in a Morning, before they begin to be seiz'd with this Distemper, (which was certainly a great Commission) they may first begin to throw on the cold Water upon the lower Extremities, then proceed to the *Vertebræ Lumborum* and Back, and so gradually on, till they have so accustomed the Child to such an use of the cold Water, that they may safely plunge it over Head and Ears, and after the Immersion rub it well all over with a warm

warm Cloth in the Winter, in which it is afterwards to be wrap'd, and then laid down in a Bed in the Nurses Arms, on purpose to encourage any Inclination it may have to Sweat. It is to be only dipp'd and took immediately out at the first time of plunging, or so, but thereafter to be continued longer in the Water till it be sufficiently cool'd; and then the Friction and wrapping up Warm is not to be forgot.

I now come to consider the Use of the cold Bathing by those that are adult, and that either in a healthful or a morbid State. There can be no better mean for preserving of Health than that of frequent washing or bathing in cold Water, provided it be done at convenient Times and Seasons, and without all doubt it may prove prejudicial to the Health, if it is unadvisedly or untimously gone about. Thus if a Person finds himself Feeble and Weak, his Flesh loose, subject to frequent Weariedness, Laziness, and unwillingness to stir and move about, or to go about his wonted Exercises, such as walking abroad, &c. Let such an one betake himself to the cold Bathing; but if he has not been formerly accustomed to it, it is convenient he begin with it in the Summer Season, when this Weariedness usually possesses People; and make use of frequent Washings in some fresh cool River in the Heat of the Day, plunging himself frequently over Head and Ears: When he is  
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thus

thus accustomed to it, let him go into a bathing Tub every Morning, or as oft as he shall think fit, the Water being Cool and Fresh : He is not to go into it immediately after he is awake, or when he is all in a fume of sweating, but when the Body is moderately Cool the Blood circulates freely, all the Secretions, such as Stool Urine, insensible Transpiration, &c. are duly perform'd. Let his stay at first be but short, and he may lengthen the time of his abode thereafter, as he shall accustom himself to it. If he be otherwise in a healthful State of Body, after he has dry'd his Skin well with a Towel, he may put on his Cloaths and go about his ordinary Affairs ; but I can by no means approve of the putting on of a wet Shirt, and suffering it to dry upon the Body : Nor of that Custom mentioned by Mr. *Ellison* to his Friend Sir *John Floyer*, concerning the use of the cold Bathing, practis'd by those at the Wells at *St. Mungo*, and the other cold Springs in the North of *England*, viz. that they plunge them with their Shirt and Night-cap on, and that they dip the Shirt and Night-cap in the cold Water, and put them upon such Children as are so Weak as cannot admit of being plung'd in the Water it self. \* I am very well assur'd that the better way (in weak Children, or in

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\* *Floyer's History of cold Baths. Part 1. p. 124. Lond. 1715.*  
sickly

sickly Men, and even when they are in an healthful State) is either the immersion in the cold Water quite naked, or washing them well with it, if they have not Strength to endure the Immersion, and immediately thereafter to use the frixion or rubbing down; for as the Intention is to curb the extraordinary Transpiration, and moderately to constrict the Pores, so I would not have the Circulation of the Blood to be so inhibited, the Transpiration so stop'd, or the Pores so far constricted all of a sudden, as they may not be immediately opened and furthered in the Performance of their several Functions. For by this means the grosser Particles of the Blood may hesitate in the Extremities of the so far straitned Capillaries, and Obstructions be generated; from whence may proceed external Pains and Rheumatisms, or the texture of the Blood may be so far dissolved, that there may succeed such a Secretion of Saline and acrimonious Particles, which (passing *extra aream Circulationis*) may be precipitated in the Lungs, and be the cause of a Cough and Defluxion, or in the Intestines, and occasion a *Diarrhœa*. Therefore it is that by all means, whether in an healthful or morbid State of Body, I advise the Friction or rubbing and drying of the Skin immediately after the cold Bathing, that thereby the inconveniency of obstructing the Pores, and stopping the Transpiration all at once, may be prevented with the first Opportunity, and the



Blood rather furthered than immoderately hindered in its Circulation.

That of Frixion is likewise of great use for removing the *Sordes* or Filth, *viz.* the Particles which having penetrated the Pores, could not (because of their Grossness) avolute or pass into the common Air so freely as the more spirituous ones did, which was transpir'd along with them, but these hesitating upon the Orifices of the Pores, hindred the ordinary Transpiration and became prejudicial to the Health, so that the freeing of the Skin from them by rubbing seems to be very necessary.

I shall not upon this Occasion advise such as are in Health, to put themselves to the inconveniency of going to Bed and sweating, these having got their Skin dried, and having put on a cold dry Shirt, may, as I have said, cloath themselves when they please, and go about their ordinary Exercises and Affairs, when they'll find themselves refresh'd, first, with a moderate Coolness, and then with a gentle Heat over all their Body; but I proceed to give such necessary Directions as are convenient, both as to the Time and Season of going into the cold Bath.

I. The Constitution and Complexion of the Person is to be considered, *viz.* whether he is of a full Habit of Body, of a Sanguine Complexion, and subject to a *Plethora*: In this Case frequent Blood letting, Emeticks (if the Stomach be in disorder,) and Purgatives are requisite:

requisite : For the cold Bathing can never be rightly administrated unless the Blood have a free Circulation, the *primæ viæ* be well emptied and cleans'd, and all the Operations of our Body be regularly perform'd.

II. The cold Bathing is inconvenient after having Eat, Drank, or been too much in Exercise ; for when the Stomach is gorg'd with Victuals, and the Chyle begins to mix with the Blood, this renders its Circulation more Languid, so that to disturb it by constricting of the Pores, rendring its Passage through the narrow Capillaries more difficult, Obstructions may be generated, (several of the grosser Particles of the Blood not being able to continue in the same Course with the rest, may hesitate in the Extremities,) and be the cause of external Pains, Rheumatisms, &c. And when a Person has drank to too great Excess, then the Fumes pass from his Blood as from a boiling Pot, by which the Pores are too much dilated, and the circumjacent Nerves and muscular Fibres are too much streightned : In which case for a Person to go in to the cold Bathing it is most dangerous ; for thereby, the rapid Motion of the Volatile and spirituous Particles of the Blood being all of a sudden impeded: They must either remain within the Capacity of the Vessels, or be discharged some where else. If in the Head they threaten an Apoplexy, for whereas the Brain is full of Arteries, and the *White* and *Cinericeous* Substance



which surrounds them is so soft and flexible, that it's incapable to resist the violent Pulsation of the Vessels which now must be vastly distended; Obstructions and even Extravasations may be produc'd, from whence may proceed violent Head-aches, and other more dangerous Symptoms. If on the Lungs, then an *Hæmoptoe*, an *Asthma*, or a violent Cough may be threatned, from a Rupture in the Blood Vessels there, because of the small resistance, which the tender texture of the Substance of the Lungs is able to make to the violent Pulsation of the Arteries. By the repletion of the *Bronchiæ*, with a great quantity of gross Particles incapable to continue their Course with the Blood, now in so violent a Motion. Or by the discharge of some saline and acrimonious Particles, upon the Glands of the Larinx and inner Surface of the *Bronchiæ*, which may prick and tear its nervous Filaments. If on the Pleura, then an Inflammation may succeed, and every one is sensible how violent the Pain must be, when a Membrane so thin, so nervous, and so much extended, (as the Pleura is) shall be affected. If on the Intestines, then a *Diarhœa* must follow, proceeding from a precipitation of these Particles, whose Course was diverted, and which otherwise might have been exhal'd by the insensible Transpiration. And if on the Extremities, then there must be expected *Sciatica's*, Rheumatisms, Gouts, and other violent



lent and unsupportable external Pains. I do not say, that these Symptoms have always followed, or must necessarily follow, upon such an irregular Course of Living, and such an unwary Procedure, but as it is most natural to think they may, and it consists with my frequent Experience, that great Inconveniences have hap'ned upon such doings: It is therefore the safer way to avoid them, and most necessary to give such Precautions.

If, in the third Place, a Person has been in such violent Exercise so as to put him all in a Sweat, for such an one to go immediately into the cold Bathing, he exposes himself to Feavers, Rheumatisms, &c. for though there be no such quantity of Meat or Drink ingested into the Body, which might disturb the *Œconomia animalis*, yet the sudden Obstruction of the Pores now patulent and open, will not fail to produce bad Effects.

I now proceed to give necessary Directions concerning the use of the cold Bathing in a morbid State of adult Persons; what I have formerly advanc'd about the letting of Blood, cleansing the *primæ viæ*, endeavouring to conciliate a free Circulation to it, and administering such general Alteratives as may rectify the Humours in the Stomach, render the tone of its Fibers, and of those of the Intestines more firm, and in general to conciliate so good a Habit of Body to the Patient as possible, seems to be requisite before one begin to the use of cold Bathing,

Bathing, as well in a morbid as in a healthful State: But that must be done according as the Physician shall find convenient, for there may be harm even in the use of these, otherwise necessary Precautions, if unadvisedly or unwarily gone about; and without all doubt the ordinary Physician, or such as have formerly been acquainted with the Patients Constitution, must be the best Judges of that.

I shall not here enumerate the various Distempers in which the cold Bathing may be, and has been found effectual, since both Sir *John Floyer* and You have given a distinct Account of them, I shall only shew how and when they are to go about it: Without all doubt the Morning is the better time, when by the previous Sleep and Quietness, the Spirits are compos'd, and the Circulation and Secretion both of Blood and Humours are duly perform'd. Let the Patients Body be free of Sweat, let it be moderately (not too much by taking off too many of the Bed-cloaths at once) cool'd; let the Shirt or Smock be remov'd, or if Modesty obliges to keep it on, let it be immediately taken off after coming out of the bathing Tub; let the Patient be first laid down in the Tub upon the Back, then immediately turn'd over to the Belly, and in the turning let the Head be plung'd, and immediately after coming out, let the Patient be well rubb'd all over with a warm Towel, if in cold Weather, and then let him take a spirituous Cordial; (with some drops of *Liquid*

*quid Laudanum* if found convenient) and then let him be dispos'd to plentiful sweating, and having slept, let the Skin be rubb'd again and dry'd, and if the Shirt has been wet with sweating, let that be remov'd and a dry one put on.

By all which means the Circulation of the Blood (as is observ'd) will be accelerated, the formerly constricted Pores opened, and the Transpiration be rendred more free, from all which we may expect this considerable Advantage; that whereas some great Obstruction has been formerly generated in the external Habit of the Body, by which such and such a Distemper, accompanied with such and such Symptoms, have been produc'd; there being now a greater quantity of Spirits and Fluids than usual retain'd within the Mass of the Blood, because their egress was hindred by the cold Water which stopp'd the Pores during such a time, the Capillaries which were compress'd by the Element of Water (more ponderous than that of the Air) are proportionally less'n'd in their Incapacity, and the Globules of the Blood contain'd in them rendred more compact; so that it's probable the Water may perform that same Office to the Blood in the Capillaries at the Extremities, as the Air is wont to do to it in the Trunks of the Vessels in the Lungs. And as the Blood in the Lungs has its motion thereafter accelerated by the Heart, even so by the frixon and sweating,



ing, the motion of the Blood, (partially impeded by the cold Water,) is now accelerated, not only by the spirituous Particles retain'd in the Blood, but also by the additional ones adhibited in the Cordial. And the now compress'd Globules, expanding themselves, acquire their former Elasticity, and as it were with greater Vivacity rush forward, *qua data porta*, make their way, push, remove, and set aside every thing that impedes them, and by this means drive before them all those Particles which formerly hesitated, and would not be remov'd whatever other Method could be us'd; add to this, that whereas the Capillary Arteries usually have a Nerve which accompanies them, so that if the Blood in the Extremity of the Artery or Root of the Vein, be either languid or obstructed, there must of necessity be a more than an ordinary Pressure upon it, by which the Place to which the Nerve is passing, must be both benumm'd and weakned; but now the Obstruction being remov'd, and the Nerve freed from this Pressure, it acquires its wonted tone, and the due proportion of Spirits are furnished to the Parts to which they were design'd. And thus I can Account for all the good Effects which are to be expected from this Method, I am so fond to advance, of Friction and sweating after the cold bathing.

But whereas I have advis'd the Morning as most proper, because of the most quiet sedate  
Com-

Composure of the Body at that time, yet since it usually happens that such as are subject to Rheumatisms, Sciatica's, and other external Pains, are most afflicted when they are warm in their Bed, which proceeds from the languid Motion of the Blood rendred so destitute of Spirits, and the muscular and circumjacent Fibers their being so flaccid, that neither are the Particles of the Blood able to make their way thro' the obstructed Part, nor these Fibers in any capacity to further its Motion; so that the Blood being forcibly beat from the Heart with a more than ordinary Motion by the Heat in the Bed, when it comes to the obstructed Part, it hesitates there for want of sufficient Strength, creates a tension of the circumjacent Parts, and affords the Idea of Pain more or less intense, according to the Obstruction or Texture of the Blood. In this Case it's highly advisable the Patient be put into the cold Bath, in an Evening about the usual Bed-time, having been careful neither to have eat or drank too much before, nor having been expos'd to too violent Exercises; and then it is convenient to give a moderate Dose of liquid *Laudanum* along with the *Sudorifick*.

Thus far the Conveniencies of the cold Bathing, if cautiously gone about, and as to its Inconveniencies, if not gone about as it ought to be they are very considerable; for whereas the design of it is only, partially to impede the circulation of the Blood, and moderately to

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constrict



constrict the Pores that the Blood may return with the greater force ; so if either the Patient go into the cold Water without observing the foregoing Directions, if he has not before accustomed himself to it by degrees, if he shall stay too long in it, and has not taken care to have himself well rubb'd down, put on a dry Shirt, or gone to Bed immediately after it, in order to provoke the sweating, then he is not to be surpris'd, if the Weakness, Pain, and other bad Symptoms encrease, and the Part instead of being enlivened, refreshed and relieved, become Cold, Benumm'd and Chill'd, so that you see what necessity there is for these Precautions, and for the observing of those Directions I have laid down for the right Performance of the cold Bathing.

I have hitherto only spoke in relation to the bathing Tub, which every one may have in readiness when they have a mind to go into it, being plac'd so near to their Bed as conveniently can be done, that upon coming out of it, they be rubb'd, dry'd, and go to Bed, in order to procure a Sweat if they shall think fit. But now let me advise such as keep publick cold Baths, that they observe.  
*1<sup>st</sup>*, That the Patient do not stay too long in the Water for the first Two or Three Times of their going in to it, and that thereafter the time of their Abode in it be proportioned to their Strength, to prevent the Patients being chill'd, or the affected Parts benumm'd, which  
 may



may render their Distemper more Inveterate than formerly. 2<sup>dly</sup>, That they have a Servant in readiness to rub them well all over, and dry their Skin, either with a dry cold or warm Towel, according to the Season of the Year. And 3<sup>dly</sup>, That they have bedding and bed Cloaths in readiness for any Patient who has a mind to Sweat after coming out of the cold Bath; and I am fully perswaded, if these necessary Precautions, if these Rules and Directions which I have laid down and given, be duly and punctually observ'd, both before and after the use of the cold Bathing, that the Practise of it shall become more general, the good Effects of it be more observ'd, and it shall be attended with far greater Success in the various Distempers for which it shall be prescrib'd, than ever it was formerly.

I come next to give an Account of the *Catacractical* Use of the cold Bathing by the fall of Water from on High. As I have had great Experience in that way of doing, and as my Practise therein has usually been attended with very good Success, as is to be seen by the two Observations you were at pains to insert in your Appendix, I shall here shew you after what manner I make use of it, and whence I think the Success may proceed.

In the first Place I always proportion the quantity of Water, and the height of its descent to the Strength of the Patient; in the

next Place I take care that the greatest Pressure of the Water be upon the affected Part, and thereafter I order it so as none of the good Effects I am to expect be prevented by Mismanagement. For the first, that's intirely owing to the Physician, for he is the most proper Person to determine how far the Water should be made to fall, what Quantity is to fall upon the Part at once, and how long the Patient is to continue under the falling of it : When I have the conveniency of the fall of a Mill I place a Spout, which proceeds laterally from the Trough, by which the Water is let down to the Wheel of the Mill ; and this Spout is to contain no more than I think the Patient is able to endure ; upon which account I usually place the Patient so, that the Water may fall directly upon the affected Part, and that his Body be so fix'd in a Chair, or the like, that he cannot remove from under it while it is a falling. Thus, if the Weakness be in the Back, then he is to be placed upon his Belly, and the Water is to fall upon such *Vertebrae* of the Back and Loins, where you may suspect the Obstruction of the Conjugation of the Nerves is lodg'd : If the Arm be affected, then you are to make the pressure of the Water be upon the *Vertebrae* of the Neck, &c.

As to the time of their abode under it, that may be from two or three Minutes the first time, and so gradually lengthning the time as the Patient is able to bear it, till seven or eight Minutes, being sure to rub him well down,  
after

after which give him a spiritous Cordial to make him Sweat heartily in the Bed; for by frequent Experience I have always found the removal of the Symptoms, and success of the Cure, to proceed from the proportion of their sleeping and sweating, after they had been put under the Fall of Water.

And whereas I have had several Patients, whom by reason of the Season, or that I otherwise did not think fit to expose them to the open Air, or in so publick a Place as Water-mills usually are; therefore I have caused a Trough to be made, from which proceeds a Spout, fix'd within Doors, which would let down so much Water as the Patient was able to endure. Thus I have made them from four Inches to two Inches or one Inch square, by which means the Water fell perpendicularly upon the Part affected, and in such a quantity as I found convenient in an unbroken Column from six to twelve or fourteen Foot high, having made an Hole in one or two Floors according to the design'd Height, thro' which I made the Spout to pass, and the Water to fall upon the Person whom I had so fix'd as not to let him remove from under it till I found convenient: I have seldom fail'd of Success by this Method, which next to God's Assistance I attributed to the Water, by its pondous as it were, squeezing out the obstructed Particles from under it, and then removing them; by conciliating a more free and quick Circulation to the Blood, both by the friction



friction and sweating, so as to enable it to drive away and carry off all before it, so that the Nerves being freed from the pressure of these obstructed Particles, become able more freely to convey the Spirits to the several Parts, and perform their usual Functions of Sense and Motion.

I should have likewise spoke something in relation to Womens Distempers concerning the Use of the cold Bathing, I have had great Experience in the Success of it in most of their Diseases, to the knowledge of which I have now apply'd my self for about Twenty Eight Years : But as there are several Circumstances which relate to them, not convenient to be published, and wherein the Use of the cold Bathing may be omitted, I refer the time when, and the Distempers in which it may be us'd, either to themselves, to their Physician, or such as are skilful about them, but in most of these Cases I advise the being rubb'd with a dry Cloth and sweating.

Sir, I could have enlarg'd much more upon this Subject, and given you a great many other practical Observations concerning it, but this I hope will suffice to let you know, that I am with due Respect

Your most

London August  
the 31<sup>st</sup> 1717.

Humble Servant

*P. Blair.*

To the Learned and Ingenious Dr. Edmund  
Halley, Secretary to the Royal Society.

Worthy SIR,

**T**HE following Observations being what  
I formerly communicated to several of  
the Learned Members of the Royal Society, I  
have been advised to publish them; and since  
the Society was pleas'd some Years ago to do  
me the Honour of admitting me a Fellow there-  
of, I thought it my Duty to Dedicate these  
Observations to that Honourable and Learned  
Body, to whom they justly belong, and for  
whose Satisfaction they were chiefly intended.

Be pleas'd therefore to accept of these Sched-  
ules, as a Testimony of the just Regard I have  
for the celebrated Royal Society, and for your  
self, be assur'd I shall always do my utmost  
to acquit my self as worthy of so great an Ho-  
nour.

I am

SIR,

Your most humble and

Obliged Servant

London Septemb.  
the 4th 1717.

Patrick Blair.

Several

Several practical Observations in Physick,  
Surgery and Anatomy, made upon human  
Bodies, by Dr. Patrick Blair, and com-  
municated to Dr. Hans Sloane, Secre-  
tary to the Royal Society.

Honoured SIR,

“ O assign particular Causes to all  
“ T the different kinds of *Hydropsies*,  
“ would be a Work too tedious for  
“ this short Essay; I shall only content my  
“ self with communicating to you a few Ob-  
“ servations somewhat singular, such as have  
“ occur’d to me in my Practise.

I. A Soldier in Colonel *Collingwood's* Re-  
giment, quartered in *Ghent* Anno 1695. who  
after he had been affected some time with an  
*Hydropsy*, the Surgeon of the Regiment at  
length thought fit to perform the Operation  
of the *Paracenthesis*, which he did three or  
four Times, after convenient Intervals, with  
very good Success. At last the Patient unex-  
pectedly died in the Night, upon which I  
was invited to open him. The first thing I  
observ’d was, that the *Muscles* of the *Abdo-*  
*men* were so thin as if they had degenerated  
into



into *Aponeuroses*, and the *Peritonæum* was so thick as if it had been one intire *Muscle*. These being laid aside the next thing expos'd to View was a huge Mass of a confused livid Substance, which at first seem'd to be a *Sphacelus viscerum Abdominis*, but upon further enquiry, I found it was a great quantity of an extraneous Heap or Congeries generated, and included within the *Duplicature* of the *Omentum*. In some Places Glandulous, Firm and Solid, in others Fibrous, with various Blood Vessels, agreeably branched and disseminated through it; some of it was Grumous not yet fully concreted, either into a carnous or glandulous Substance, and in other Places there were several Clusters of *Globules* contain'd in common *Cistus*'s, Contiguous but not Continuous to one another; I extracted all these together with the *Omentum*, which had been as it were an *Uterus* to them; their weight amounted to Sixteen Pounds. When they were removed, the *Liver*, *Stomach*, *Intestines*, &c. seem'd to have been no ways affected, but were only as if they had lain sometime in Water. The Extremities were *Anasarcous*, and Brain moist, whose *Sinus*'s were fill'd with a *Polypus*, which was branched according as they communicated with one another. No doubt the Surgeon was in his Duty in performing the Operation of the *Paracentesis*, for *Cuncta prius tentanda*, but though the Patient could not have lived long

yet the Operation may be said to have hastned his Death: For whereas the vast quantity of solid Substance had been formerly kept fluctuating in the Water, and so the Patient suffered only by their weight; these being now remov'd, this Substance must have subsided, whose pressure upon the *Aorta descendens* and *Vena Cava* must have stopp'd the circulation of the Blood, and be the cause of the sudden Death.

II. A Gentlewoman of 20 Years of Age, lately Married, laboured of *Obstructio Menstruorum*, she was at first seiz'd with a Stitch and Pain in the right Side, and a small Tumefaction in the right *Hypochondre*, which (by Blood letting and a Linament) I got soon remov'd. But some Months after, the *Obstructio Menstruorum* continuing, she complain'd of a heavy Pain in the right *Hypochondre*, with a great Tumefaction, which being observ'd, some other Physicians were call'd to my assistance; *Deobstruents*, *Alteratives* and *potent Hystericks*, were adhibited, notwithstanding of all which, the Tumefaction still increased, no fluctuation of Matter observable by the touch, but an hardness, and as it were of a *Schirrus Hepatis*: Sometime after she would complain of a more than ordinary Pain, at certain Times, as if the *Tumor* had inclin'd to suppuration, which still increasing, the Tension kept the same situation in the right *Hypochondre*, and all the rest of the *Abdomen* was flaccid. The other Physicians and

I determin'd an Apertion should be made, but we were still at a loss, whether it were *Pus* or if it was a *Schirrus Tumor*, there not being any Indication of an *Hydrops* in *Cisto* ; and therefore it was resolv'd we should do it by Causticks, that by the Reiteration thereof we might penetrate deeper by degrees, till at length we should find out a Cavity, if there were any, I apply'd the Caustick to the depending Part, and in process of Time penetrated the *Muscles* of the *Abdomen*, till I came to the *Peritonium* it self ; when she, wearied with delays, and doubtful of the event, (and being dissuaded from continuing in that course by a Lady of her acquaintance, who had taken the Advice of another Surgeon, unacquainted with the Method I had formerly taken) went from under my Hands, without either my Knowledge or Consent ; so that I was depriv'd of performing an extraordinary Cure, when I might have in all probability accomplished my Design in a short time, which was to evacuate whatsoever Humours were contain'd in the *Tumor*.

Thus she continued for a Year, sometimes severely tormented, and at other times more easy, the swelling still encreasing, she was at last seiz'd with a *Hætick*, *Defluxion* and *Dyspnaea*, from which she was sometimes reliev'd by a *Solution* of Gum. *Ammoniac.* among *Aqua pulegii pulv. milliped.* and *Syrup. Balsam.* but



this at length became ineffectual, and she all on a sudden, going to Supper, drop'd down dead. Being desirous to open her, because I doubted not but the Liver might be affected, I found the Muscles of the *Abdomen* quite degenerated in that part, as in the former Case; but when I came to the *Peritonæum*, contrary to Expectation, I found it fluctuating with Water, which (by penetrating with the *Scalpel*) flowed out in great abundance, I took care to preserve this Water in Vessels, and found it exceeded Eight English Gallons in Measure, beside what was otherwise spilt: When I came to the *Eschar*, I formerly had made, I found I had penetrated to near the thickness of an Half penny from the Cavity, when I was oblig'd to give over my enterprise. At first View I thought the Waters by that time had occupied the whole Cavity of the *Abdomen*; but after I had emptied them, I found they had only been contained in the Duplicature of the *Peritonæum*, which had been dilated by degrees as the Water encreased, for this *Cystis* (as I may call it) being remov'd, neither Liver, Intestines, nor any other of the *Viscera Abdominis*, were in the least affected. You may judge, I could not but be troubled, when the prospect of performing such an excellent Cure was taken out of my Hands; especially when I considered that the application of one *Caustic* more would have done the Business, for at that

that time I may safely say the Waters did not exceed a Quart, so that they could easily have been remov'd, for being included in a *Cystis*, the very pressure of the *Abdomen* would have been sufficient to evacuate them: And as for the *Cacochymia* 'twas not so great then, but it might have been remov'd by suitable Medicines. Had there been any Indication, that Lymph was the cause of the Disease, perhaps it had not been improper to apply the *Trois quart* rather than the *Caustick*, by which I might have learnt what was the Humor contain'd in this Tumor; but of this I may discourse more hereafter. But in this Case the Distention was so great, there was such a resistance to the touch, that nothing seem'd more advisable than this application of *Causticks*, for had it been a *Schirrus Hepatis*, this was the fittest way to dissolve this Tumor and Induration by digestion, and had it been *Pus*, so large an Orifice as that made by a *Caustick* was most suitable for the evacuating of it; for too small an Apertion made by the Lancet is too too often the Cause *Sinous Ulcers*, *Fistulaes*, &c. whereas if the Apertion is large, and the Humors are freely evacuated, then the sides of those Cavities which otherwise must have been distended by the remaining Humors are usually collaps'd: In which case the application of the *Caustick* is preferable to that of the Lancet, for the  
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one still continues at a convenient largeness, whereas the other after the Humor is evacuated becomes less, frequently consolidates and prevents any further evacuation of Humors, by which that *Ulcer* which was only *Sinous* at first now becomes *Fistulous*, since the Humors by their continuance within the Cavity become so acrimonious as to generate a *Callus*, by which alone we distinguish betwixt a *Sinous Ulcer* and a *Fistula*. And this leads me to a third Observation.

III. A Gentleman who after some Fatigues and Cold was seiz'd with a *Tumor* on the right side of the *Anus*, which after some time suppurated and broke of it self, and not being sufficiently taken care of, it degenerated into a *Fistula*, upon which he had his recourse to a famous Surgeon, who was at much Pains to dilate it, and make use of such things as were otherwise convenient for the removing of the *Callus*; but (whether the Patient or the Surgeon was in the fault I know not) the Operation for the *Fistula* in *Ano* was neglected, and the Patient went from under the Surgeon's Hands. Sometime after (the *Callus* having been remov'd from the *Orifice*, but not from the bottom of the *Fistula*,) the Lips consolidated and the *Fistula* seemed to be whole for the space of three or four Years, during which time the Patient was threatned with an *Hæctick*, which (as was suppos'd) proceeded from the Blood, its not being fully reliev'd from



from the acrimonious Particles formerly diffus'd into it by the *Fistula* ; upon which he was advis'd to undergo a partial *Flux*, but this also was to no purpose : Afterwards having recourse to me, he communicated the Suspicion he had that the *Fistula* was not cur'd, and then desir'd to know if any Method could be taken for finding it out, I propos'd to him the application of *Cæusticks*, which he willingly consented to, and underwent with a great deal of Patience and Resolution, though it was not easy to be done, for there had been a great many Incisions made, and sponge Tents and other things had been applied for the dilating of the *Fistula*, while formerly under cure, whereby the *Eschar* was rendred extremely hard, and as it were *Cartilaginous*, add too, the Situation of the Place, whereby the *Cæustick* could not be so conveniently kept at it, as at other Places, but *maugre* all these Inconveniencies, I penetrated an Inch and half up a long the side of the *Intestinum Rectum*, and at length came to the *Fistula*, which I found obduc'd with a strong, and as it were *Cartilaginous Callus* most uneasy to get through, either by *Cæustick* or *Scarification*, but I got in at last and found the *Fistula*, whose Cavity might have contained as I guess three or four Drams of Liquor, of an oval Figure ; one thing observable was, that tho' I did not penetrate the *Intestine* where any small matter might have been discharged, yet there was no kind  
of

of Liquor in it, what Effects such kind of *Fistula's* have, and how these Effects come to be produc'd, deserves a serious Enquiry. In short the *Fistula* was cut and cur'd, but all too late, for the Gentleman died within two Months after of an *Hætick*, whereof he had laboured long, (before the Operation as is said was perform'd.) At the opening of his Body, his Lungs on the right side, were all ulcerated and adherent to the *Pleura*; the *Pericardium* contain'd above twelve Ounces of *Serum*, which had been the occasion of his sudden Death, for he dropp'd down unexpectedly.

IV. A Maid of about twenty Years of Age, who after she had begun to have her *Menstrua* at sixteen Years of Age, was thereafter obstructed for the space of two Years, and at last seiz'd with excessive Griping, the Distemper still increasing, her Belly began to swell, and became so hard, that some about her had suspicion she was with Child, which soon prov'd Groundless, for within a short time she died of that same Distemper; but before her Death, for the vindication of her Chastity, she recommended to her Friends to take care she should be opened; upon which I was invited to do it. The Muscles of the *Abdomen* were thin as before, the *Peritoneum* very thick, the *Omentum* instead of Fat was endued with a great many big tumefied schirrous Glands, all the Glands of the *Mesentery*, both those which us'd to be conspicuous, and those which

which are not were very big, scirrous and hard: In a Word, the whole inner Surface of the *Peritonæum* was very thick set with the like *Glands*, especially toward the *Hypogastrium*, where they appeared like so many Grains of Pease placed very close to one another: The same thing was since observ'd by a Physician in that Place, in a Woman about seventy nine Years of Age, who had long laboured of a Pain in both her *Hypochondres*, swelling and hardness in her Belly, and at last shortness of Breath, of which she died; but the *Glands* had not acquir'd such a hardness as in the former; I mention these two last Cases, because though the tumefaction of the *Glands* in the *Mesentery* be not unfrequent to such as are subject to scrophulous *Tumors*, yet they are seldom found in such as have not labour'd of that Distemper.

V. The third or rather fourth Hydropical Case is, of a Soldier who was seiz'd with a *Tumor* upon the *Sternum*, about eight Inches in Circumference at the base, which seem'd to be an ordinary *Steatoma*, but after the crucial Incision and separation of the Skin from the *Cystis*, which being pierc'd I was afraid to extirpate the *Cystis* all at once; because it was firmly adherent to the *Sternum* nothing flow'd out, but limpid Water, and that which was more remarkable was, that no sooner was the Operation perform'd than the Patient began to be threatned with an *Anasarca*, and

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seiz'd



seiz'd with a *Dyarrhæa*, and with much ado could I either get the Wound to digest, or these two supervenient Symptoms remov'd, by which it seems the *Serum* wherewith the Patient's Body too much abounded, has had a Tendency to be discharged this way.

VI. Another Instance of a *Tumor*, with a *Cystis* in the same Place, and of the same Dimensions, was in a Lieutenant; where after the making of the Crucial Incision and Separation of the *Cystis* near the Base as before, the Matter which flowed out was of a Consistence and Colour of Milk, among which there lay twelve or fourteen *Globules* about the bigness of a Musket-ball, (of a curdly kind of Substance) Contiguous, but not Continuous to one another; the remaining *Cystis* soon fell off by the supervenient Digestion, and the Cure was not difficult.

VII. I have made Incision upon three of these *Tumors* behind the Ears, two whereof contained good laudable *Pus* within the *Cystis*, and the third was a *Gland* firm and solid of about four Ounces Weight, as it were *Cartilaginous* at the one end; this being loose within the Skin easily separated, but by reason of a big Vessel that nourished it, not without considerable *Hæmorrhagies*.

VIII. Another *Tumor* I saw of the *Scrotum*, which had swell'd to a huge bigness, and whereof the Patient died. At the opening of it the *Scrotum* it self was so thin as usual,  
but

but the *Musculus Dartos* was become very strong and thick ; this I separated throughout its whole extent, being curious to see how it fared with the inclosed *Testes*, but after I had open'd it there flowed out a great deal of *Sanies* and *Ichor*, scarce any purulent Matter ; and when I came to search for the *Testes*, there was not so much as a remainder of either of them, their *vasa praparentia* or *deferentia* to be found, but all was consumed ; the Patient was come to a good Age, and had conceal'd his Distemper till near his Death, but never gave any Account how he came by that Accident, or how long he had laboured under that Distemper : Thus much of *Tumors* with *Cystis*, now I come to *Excreescencies*.

IX. A Man of middle Age, after he had laboured of a *Wenn* upon his right Shoulder, whereby he was at last disabled of that Arm, applying himself to me I found the *Tumor* very large, with a broad Base, soft to the touch, of a dull Sensation, lying upon the *Musculus Deltoides*, the superincumbent Skin being loose, I supposed it to have a *Cystis*, but upon making the crucial Incision I found the contrary, and saw it to be a true *Stæatoma*, for the inclos'd Substance was a Mass of pure clean Fat, which I both separated from the Skin and subjacent *Deltoides* to which it adhered by some exile *Membranes*, the whole being taken out I weighed it, and it amounted to two Pounds ; in examining of its Sub-

stance it was all *Homogenous*, except in the Center, where there was a hard *Globule* about the bigness of a Musket-ball of a gravelly Substance, like the Stone in the Kidneys or Bladder, whether the petrified *Gland* (as I may call it) might have been the Origin of the *Tumor*, by gradual adhesion of *Oleaginous* and unctuous Particles to its Surface, may come to be enquired.

X. such a Petrification of this is what a Gentleman of my Acquaintance is much subject to, for there are *Nodes* which arise upon the Joynts of his Fingers and Toes, and sometimes on his Legs too, which after they have continued for a considerable time without Pain, they at length become painful, inflam'd, and have a tendency to suppuration, upon which he desires an Incision to be made, and there flows out a Milky Liquor, as in Account the Sixth, sometimes curdly, among which there is usually Sand and sometimes pretty big Stones, and 'tis observable that he being otherwise much subject both to Gout and Gravel, has a greater Respite than ordinary upon opening these *Tumors*.

XI. A Woman within a short time after the *Partus* had an *Excrecence* which fell out of the *Uterus* down to the *Vagina*, and hung betwixt the *Labia*, its rubbing upon both the Sides made her have several Floodings as if she had had her *Menstrua*, this was very uneasy to her, and brought her to a great Weak-



Weakness, whereupon she had recourse to me ; when I found it adherent to the Body of the *Uterus* it self by a *Ligament*, the length of the *Vagina* ; this *Ligament* I suppose to have risen from the inner Surface of the *Uterus*, pass'd out betwixt the two Sides of the *Corona*, and so fallen down, 'twas about an Inch in Circumference, the *Excrescence* it self which adhered to it was four Ounces Weight round in the *Shape* like a Turnip ; after applying a *Ligature* for fear of an *Hemorrhagie* I cut it off with its *Ligament*, as high as I could reach ; upon examining its Substance I found it to be altogether *Glandulous*, of such a Substance as in the following Case ; and 'tis observable, that about nine Months after the *Ex-tirpation* the Woman brought forth a lively Child.

XII. A Woman so big with Child that she was suspected to have Twins ; sfter she had brought forth one Child, her Belly continued big, and the Midwife mistaking the *dolores post partum* for the Pains in Child-birth, and supposing her to have yet another Child gave her the most potent *partum promoven-tia*, which made her to fall into such a Fever, that within a short time she died ; being called to open her I found a *Mole* instead of a Child, (whereof that in the preceding Case seems to have been a Species) firmly adherent to the right Side of the *Uterus* ; 'twas about

about four Pounds Weight ; its inner Substance was Hard, Solid and Glandulous.

XIII. I come next to give an Account of several Substances, by some called Stones, by others *Tophi*, taken out of the *Intestines* ; *verbi gratia*, a Man of middle Age, was often troubled with the *Tormina Ventris*, which seized him sometimes so, that no Remedy being effectual he was given over for Death, especially when he became *Constipate* : After the Distemper had continued fifteen or sixteen Years 'twas cured by his going to Stool ; for having a great difficulty in voiding of his Excrements he was oblig'd to make use of his Fingers, and with much ado, pull'd out a Stone weighing two Ounces, small at one end, and obtuse and big at the other, where it was about six Inches round, in shape of a Pear, with a *Crena* running obliquely from one end to the other ; its Surface was smooth and polite, and external *Tunicle* very hard.

XIV. A Lady of Quality, living at some distance from that Place, shortly after, (having before enjoy'd perfect Health) was all of a sudden seiz'd with violent Vomirings, at last Convulsions of which she died within three Days. A Surgeon who lived where the preceding Case happen'd, being call'd to open her, judg'd it to be the same Distemper, which indeed it was ; for after he had opened the Stomach, and come to the *Pilorus*, he found one of these *Tophi*, which had descended

scended to the *Duodenum*, and so straitned the Gut that it Gangren'd, whence we may perceive the great Advantage of making use of Observations in difficult Cases.

XV. A Boy of sixteen Years of Age, after he had laboured of *severe Termina* at certain times, for eight or nine Years, at last came to be so violently tormented that all about him feared a *Miserere*; after a little time they found the *Perinæum* much swelled and very hard, *Clysters* proved ineffectual, because the Pipe would not go up; at last a Surgeon suspecting some such Substance introduced his Finger and felt a great Hardness; after which he made use of the *valet a Patin* and took hold of one of the Stones, which was so big that he was oblig'd to break it; after which he brought out another whole one, and three Days after two more, the one greater than the other: They weigh'd five Ounces altogether, those that were whole were so hard as if they had been Metal, and gave as it were a metallick Sound; those which were broke consisted of two hard thick *Laminae* black and polite in the Surface, one of which separated from the other like as it were a Shell, the inner Substance was of a very dark Colour, impalpable when rubbed betwixt the Fingers, and adherent by a sort of Moisture as on Paste, but soon separable, without any fetid smell. I have seen such Substances as these in the Stomach, Intestines,



stines, Kidneys, Bladder, Gall-bladder, &c. of other Animals, also in the Gizzards of Birds; the Generation of all which requires some Speculation.

XVI. I come next to give you some Observations made upon Diseases in the Bones; the first whereof is of a Gentleman in the Horse-guards in *Flanders Anno 1697.* who by a fall from his Horse hurt his Arm below the Elbow, after which there happen'd a hard *Tumor*, which encreasing daily for the space of two Months made the Surgeon of the Regiment believe it would come to suppuration, and for that end apply'd *Cataplasms* to it, but still the hardness augmented, and the Patient was more and more tormented: After which he went to *Brussels* and submitted himself to the Cure of Mr. *Hall* an eminent Surgeon in the Hospital, who with the Advice of other Surgeons there, determined to apply a *Caustick*; for though the hardness continued, and the Part was still inflam'd, yet they were all of Opinion that there was purulent Matter contained in the *Tumor*: The *Caustick* being applied, the Patient was so far from being relieved, that the Pain was still the greater, and instead of Digestion by the *Caustick* nothing flow'd out but a thin *Serum*; the Patient being much emaciated, they endeavoured to save his Life by cutting off his Arm; being present I opened it and found the *Membrana Communis Musculorum*  
here

here very thick and tended ; when I pierc'd it there flow'd out a great quantity of *Serum* ; the subjacent *Muscles* were all degenerated and consumed. The Waters being emptied, there appeared a great quantity of thick *Gelatinous* limpid Substance ; upon the removal whereof I came to the *Radius* which was broke at the Neck below the *Epiphysis*, and betwixt it and the *Ulna* were several *Offifications* of an irregular Figure. moulded according to the Cavity betwixt the *Cubitus* and *Radius*.

XVII. A Captain of Horse was wounded with a Ball at a Duel betwixt the *Tibia* and *Peronæum* ; after the first Intention of removing the extraneous Bodies and making necessary dilatation to get out the Ball, was over, instead of digestion and getting out of the Ball, the Surgeon found nothing but new *Sinus's* and fresh suppurations, which run up and down along the *Peronæus Externus*, *Internus* and *Gastrocnemius*. The Patient in the interim was feis'd with a *Symptomatick* Fever, and after with an *Hæctick* ; being thus tormented with continual Pain, and not suffering the Leg to be amputated, he was at last feis'd with a *Dyarrhæa* of which he died : His Leg being opened the Ball was found to have pass'd in between the *Tibia* and *Peronæum*, and to have abraded some of the external Surface of both the Bones ; from whence had flow'd the *Succus Osseus* which became several solid *Offi-*  

G
cations,



sations of such Shapes and Figures as the Place they occupied would permit ; some were of the bigness of a Pea, and others much bigger : They were shewn to me by Mr. Hall the Surgeon of the Hospital. The Patient lived about three or four Months, the Ball was found lying betwixt the *Gastrocnemius internus* and *externus*, where they begin to be tendinous and to form the *Achilles*.

XVIII. An Officer's Servant in the Royal Regiment of *English* Fusileers, of a seeming good Habit of Body, passing a narrow Lane, (in *Ghent* in the Spring, *Anno* 1696.) was struck by a Coach Wheel upon the Thigh, which disabled him so, that he was brought to the Hospital, and nothing of a Fracture appearing he was treated after the usual manner ; after some time he seem'd to recover so well, that he was at last pricked down to be sent to Camp, when all on a sudden he fell ill, and died within two Days. Mr. Hall, who had formerly been Surgeon of that Regiment, being earnest to know whence such a sudden Change might proceed, opened his Thigh and found the Bone so corroded by a *Caries*, that it was not so big as ones Thumb below the *Trochanters* where it had broke ; this made him search further into the Bones and found several *Exostoses* in the Leg which was also *Carious* ; though he had never complained of them. In a Word, all the Bones of the *Metacarp*, the *Metatarse*, Fingers and Toes



Toes were *Carious*, the external *Lamina* of the Skull was wholly corroded, and all this without the least previous Exulceration.

XIX. A Maid of twenty Years of Age, when she was about seven or eight receiv'd a Bruise upon the middle Joynt of her Ring-finger of the left Hand, upon which it began to swell, and the *Succus Osseus* (as I judge, whereof formerly) began to flow out, which encreased to such a bigness in four or five Years time, that it bended the Finger towards the Palm, disjoined the little Finger, and obliged a Surgeon to cut off both the *Tumor* and Finger, which was then but small towards the Hand; it seems some of the same Juice had passed from the Finger and got in below the Skin of the back of the Hand. After the Stump was cur'd a *Tumor* began again to rise on the back of the Hand, which encreas'd to a vast bigness, and oblig'd her to have recourse to me; the *Tumor* lay between the middle Finger and the Wrist, and from thence extended to the *Metacarp* of the little Finger, being about four Inches in length and three in breadth, with a broad Base two Inches high behind, and about one Inch and an half before, in Shape not unlike the Head of an Infant, *ossified* on one side, and *Cartilaginous* on the other; I cut it off not without difficulty, for my *Scalpel* had scarce force enough to cut through the Bone. After the Extirpation I endeavour'd to take out the

Root of it, and found that the Bone of the *Metacarp* of the Ring and middle Finger were grown together, and formed one thin *Lamina*, not unlike the inner Surface of a Skull, from this *Lamina* did the ossified side of the *Tumor* arise; both this *Lamina* and the whole *Tumor* were fill'd up with that thick *Gelatinous* limpid Substance, as in Account Sixteen: After I had cut off the big *Tumor* which weighed twelve Ounces, I cut off another small one from the outside of the little Finger, and endeavoured to remove all the Roots of it, by which I happily at length perform'd the Cure.

Some of these Observations, it's probable, may be of use, if the like Cases shall happen; and therefore I thought fit to communicate them to you, being ever ready to acquit myself, as

Honoured SIR,

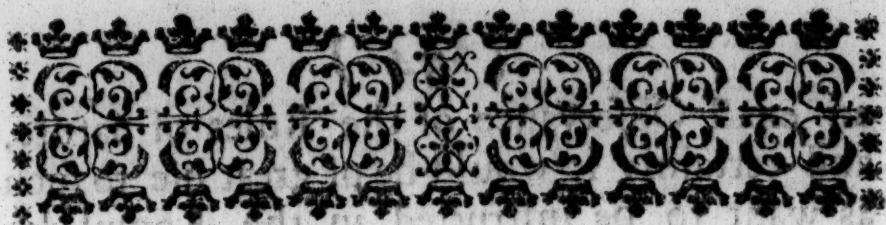
Your most Humble and

Obedient Servant

Dundee April  
the 7th 1707.

Patrick Blair.

SOME



SOME  
BOTANICAL  
IMPROVEMENTS

*Communicated to Mr. James Petiver,  
Fellow of the Royal Society.*

Worthy SIR,

Ince my last to you I am glad to find  
S by what you have communicated  
to the Royal Society, as in *Low-  
thorp's* Abridgment of the Transactions, that  
you and I are both of the same Sentiments  
with *Dr. Herman*, viz. That the Virtues of  
Plants may for the most part be found out  
by their Characteristick Notes: Indeed the  
tryal of Plants by their Chymical *Analysis*,  
by the infusion of Liquors, and by the *Turn-  
sole* so much made use of by *Turnefort* and  
the Royal Academy at *Paris*, have much  
Curiosity in them, but want not their own  
Disadvantages, which may depend upon the  
uncertainty of making these Experiments;  
whereas there is nothing requir'd here but



an exact Observance of the Rules of nature, and certainly it would be of great use to such as want to be instructed in the Knowledge of the *Materia Medica* : If the Virtues of the Plants were as well known by their *facies externa* as their *Genera* and *Species* are already known by their *Characteristick* and distinctive Notes. The Specimen you have given of your Knowledge that way, puts me in good Hopes that your sedulous Application thereto will be attended with the wish'd for Success. I am sensible that the *Plantæ Umbelliferæ*, *Galeatæ*, and *Verticillatæ*, *Tetrapetalæ Siliquosæ*, and *Siliculosæ* (though some of them be *saporis acris*, and others *fatui*) *Lactescentes*, and *Asperifoliæ*, do for the most part agree in their Virtues, according to their *Genera* and *Species* ; but I am at a loss, how to reconcile the Virtues of others to their Notes. V. G. The *Solanum tuberosum esculentum* hath the same Notes with the other *Solana*, and yet how much do they disagree in their Virtues. I am suspicious of the *Anthora* which they call *Aconitum Salutiferum* in opposition to the *Lethale*, upon what ground the one should be esteemed an antidote to the other, I know not. I could have insisted more on these Instances, but shall let 'em alone to another Occasion : Only take one Example of the *Asperifoliæ*, where the Virtues do agree with the Notes, viz. *Echium Marinum* Raii Synop. *Buglossum Marinum* Turnefortii

nefortii *Cerinthæ* Raii Meth. Emend. & *Cynoglossum Maritimum Glouco-phyllum Procumbens* Pluck Phyt & Bobartii. This is plainly a *Cynoglossum* as Bobart well observes; in which I have further observ'd these Particulars, viz. though it have a *tubulous Flower* and not so expanded as the *Cynoglossum*, yet has it the five *Tubercles* alternatively plac'd with the *Stamina*, as is to be seen in the *Cynoglossum*, and though its *Calix* be *Tetraphyllous*, and that the *Fruit* seems to be *capsular*, not unlike to that of the *Linum Sativum*, yet has it only four *Seeds* included in *capsules*, agreeing with the Notes ascribed by Tournefort to the *Cynoglossum*, with this Variation, that the *Capsulae* of the other *Cynoglossa* are flat and rugous, whereas those are more protuberant and smooth; and for the *Virtues*, I am credibly inform'd by a Gentleman not far from hence, that in the late Famine one of his Farmers being straitned for Bread, taking this Plant for *Colewort*, (to which it is not unlike in Colour) ordered to boil a Dish of it and gave it to his Wife and Children, with the Servants in his Family; all of them became very Sick, some vomited excessively, others slept two or three Days without Intermission, and one or two of them died, whereby the *Vis Narcotica* plainly appears to be in this as well as the other Species of the *Cynoglossa*.

There is another Plant whose *Genus* has  
been



been mistaken, till of late, viz. *Ranunculus Globosus*. B. P. this Bobart calls *Pseudo-Helleborus Niger* and classes it in with the *Caltha Palustris*, but Turnefort plainly makes it an *Helleborus Niger*, and indeed it is so, for it has *Folia digitata* common with the *Helleborus niger*, though in *Phures Lacinias divisa*, and not *Integra* with the *Caltha*, neither is it *Corniculis destituta* as Bobart would have it, for upon the Observation of several this Season, I find, that the *Stamina* are surrounded by 10 or 12 (for the most part) of these *Corniculæ*. (So to call them) for they are not hollow, as in the *Helleborus*, but flat, with their Extremities round and deprest toward the *Petala* like a Spoon. This Plant has many more *Siliquæ* than any of its *Congeners*, for I have numbred in one *Capitulum*, to about 24 or 30 long round straight *Pods*, with the *Seeds* not unlike those of the *Helleborus niger* but smaller, and dispos'd as I think in one Rank. I can say nothing of its *Virtues*, it has a *Sassastringent* and *Fatuus* Taste. I shall trouble you no farther at present but remain

SIR,

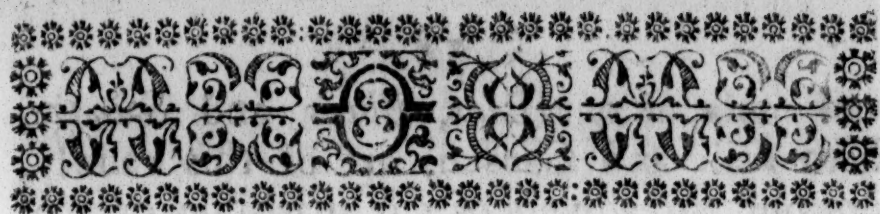
Your most Humble and

Obliged Servant

Dundee Septem,  
the 3d 1708.


Patrick Blair,





Mr. *James Petiver's*  
A N S W E R  
T O T H E  
Foregoing LETTER.

S I R,

 Ince my Letter to you, and the kind Answer in relation to an Essay I had printed in our Philosophical Transactions, that Plants of the same Class or Family had for the generality a Tendency to the same Virtues or Use, and as in that Attempt I had only illustrated it in three or four Tribes, viz. the *Plantæ Umbelliferae*, *Galeatae* and *Verticillatae*, *Tetrapetalæ Siliquosæ* and *Siliculosæ*; I have since thought more largely on it, and shall briefly mention the following Heads, and submit their Test to your accurate penetrating Judgment. First, If we consider the Plants which Mr. Ray calls *Plantæ fl. imperfecto seu stamineo*, which I term *Blink-flowers*, are many of them good Sallets either raw or boiled, viz. the Tops of *Hops*, *Nettles* and *Docks*, all our *Sorrels*  
H and

and most of our *Bees*, *Blites* and *Spinage*, both Wild and Garden, are of this Family, not omitting divers of our maritime ones of this Tribe, particularly the *Sea Purslain* which I have eaten, and the *Kali minus album* which the celebrated Mr. *Doody* expressly says is an excellent boil'd Sallet, these are also sweetners of the Blood and correctors of its scorbutick taints.

It's also very evident how much we are oblig'd to the Pulse or leguminous Tribe for a great part of our Nutriment or Food, viz. our *Beans*, *Pease*, *Phaseoli* or *French Beans*, and divers lesser kinds, as *Lentils*, *Tares*, which we use as Provinder for our Beasts and Birds, the dry Fodder also of all or most of these, to which we may add the many sorts of *Trefoils*, *Loti*, *Medica*, *Sant-foins*, &c. which are all of this Class, and a very fatning *Pabulum* for most Cattle.

This leads me to another Tribe, viz. the *Cerealia seu Frumentacea*. To these we are beholden for the Staff of our Lives as Bread is termed, such as *Wheat*, *Rye*, *Oats*, &c. here in plenty affords, and abroad the *Maiz* or *Indian Corn*, *Millet*, *Panick*, *Sorgum*, and divers others in all Parts of the World. Our *Ale* and *Beer* both strong and small is the Product of *Barley*, besides the great quantity of spirituous Liquors that are distilled from it. That celebrated *Indian Brandy* call'd *Rack* is owing to their *Rice*, whose Grain is also  
much

much eaten there, as well as in most other Parts of the World. The *Sugar-cane* a sort of a *Reed*, is no less known for its Product of *Sugar*, and its strong Spirits call'd *Rum*, both which we have in much Plenty from our *American* Isles. We must not here omit the *Grasses*, which are also a large Part of this Class, although some unthinking People scoff at their meanness and believe them not worthy their Notice, not considering what Improvements might be made in the Knowledge of them, both as a general Food for all Cattle, which it's most evident they afford, as the subordinate Use may be made of it in respect to Corn, of which they are all a minute Species.

To the *Iris* or *Flag-kind* are owing divers prevalent Drugs of no mean Virtue or Use, not yet hitherto reduced, viz. *Ginger*, *Galangal*, great and small. *Turmerick*, *Zedoary*, *Casmuniar*, &c. of the same Tribe are all the *Cardamums* and Grains of *Paradise*, so much famed in our Shops for their Cordial and other Effects.

The *Laurus* or *Bay* Tribe has beside it self some noble Attendants, viz. The *Cinnamon* and *Cassia Lignea*, the *Malabathrum*, *Folium Indum seu Tamalapatra*, as also the celebrated Tree the *Camphire*, to which the *Coffee* is very near of kin, but its Flower more approaches to the *Jessamin*.



These Hints here Sir, may lead you to  
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*Worthy SIR,*

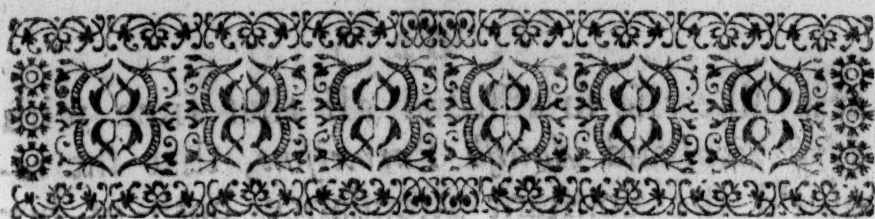
*Your most*

*Humble Servant*

London March  
the 10th 1709.

James Petiver.





A  
LETTER

Concerning the Effect of Arsenick upon  
Human Bodies, to Dr. Richard Mead  
Fellow of the Royal Society.

Honoured and Learned SIR,

OUR Mechanical Essay of Poisons  
Y had not been long in my Hands,  
when it did me no small service in  
two Observations I had opportunity to make  
upon the effect of *Arsenick* in human Bodies.  
The first was more dismal, because it answer-  
ed the design of killing the Person to whom  
it was given. The event of the second was  
to better purpose, for the Person who acci-  
dentally tasted of it was fortunately cured,  
though not without the hazard of her Life.

I. As to the first, be pleas'd to accept of the  
following History. A Baker married with  
an agreeable Woman, who, when big of the se-  
cond Child, was seiz'd with such an *Urinae sup-  
pressio*, that for the space of 3 Months before her  
Delivery she could not evacuate her Urine  
without the application of the *Catheter*. She

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*Your most*

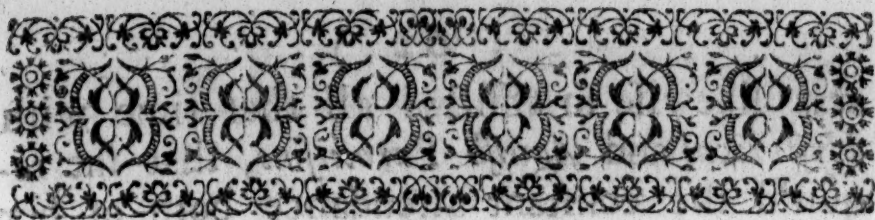
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was likewise so afflicted all that time with *Hysterical* and *Aguish Paroxisms*, that she requir'd the constant attendance both of her ordinary Physician and Apothecary ; but being happily delivered and in a fair way of recovery, her Husband having an Intrigue with a Strumpet, contriv'd to murder her by poisoning ; he first attempted to do it by giving her a Cordial from the Apothecary, who being accidentally cautious gave him only *Cinnamon-water* which was limp'd, instead of a Cordial, made duskish by some Syrrup, with which he design'd to have convey'd the *Arsenick*. Being thus disappointed he had his next recourse to *Scots Sowens* or *Flummery*, in which he desired his Maid to give her the *Arsenick*, telling her it was one of the Powders the Physician had desired to give her for her Recovery. The Maid suspecting nothing, gave it to her Mistress about Eleven a Clock at Night ; she had no sooner got it than she fell a purging and vomiting, which continued with great Violence, till about four of the Clock in the Morning, when she died Convulsive. Next Morning all the Physicians and Surgeons in Town were, by the Magistrates ordered to go and pass their Judgment concerning the manner of her Death, and I being invited to open her, I began at the *Æsophagus*, which I laid open, but found it no ways altered, for it seems the poison had been so well wrap'd up in the *Menstruum* that it had not touched



touched any Part of its inner Surface. But when I came to the Stomach I was surpris'd to see it so full of Liquor, considering that I was inform'd, she had scarce eat or drank any thing the Day before she had got the Dose. It contain'd a greenish Substance, without any colour or appearance of such a digested Mass as uses to be in the Stomach, with several thick greenish *Coagulum*s, each about the bigness of a Walnut, suspending some small quantities of a whitish gross Powder; when I had emptied this Liquor, I found the *Pilorus* all obduc'd with redish and blackish *Striae* being so many inflam'd Lines, resembling (as it were) the divarications or branchings of Blood Vessels, upon which the gross whitish hard Powder lay in such a quantity, that after it was well dried it weighed betwixt a Scruple and half a Dram, beside what I could not get scrap'd up from the inflam'd Part; from thence I continued to lay all the *Intestines* open down to the *Anus*, I found more of the same kind of Liquor all along as I rip'd them up, being without either Colour, Consistence, or Smell of an Excrement; I sav'd so much of this Liquor as I could, and it fill'd a Quart Bottle, which was not a little singular, considering what she had evacuated before her Death, both by the Mouth and *Anus*, so that we may reasonably think the *Glands* throughout the whole *prima via* must have been most violently



violently compress'd, when there was such a quantity of extraneous Liquor squeez'd from them into the Cavities of the Stomach and *Intestines*. I shall not trouble you with explaining the *Phænomena* of this greenish Colour, nor of these *Coagulums*, only observe that they seem to be what *Arsenick* usually produces when inwardly given. As will further appear by,

II. A Lady who having sent to an Apothecary for a few Doses of *Testaceous* Powders against Worms for her Children, the Servant brought along with him some *Arsenick* to poison Rats. He returning late at Night, put both Powders in the dining Room till next Morning. The Lady coming into the Room and not knowing he had brought the *Arsenick* also, opened the Paper which contain'd it, and tasted so small a quantity as would adhere to the tip of her Finger, and observing it more disagreeable than the Powders she formerly was wont to give to her Children, look'd at the Title and found it to be *Arsenick*; within two Hours, or a little more, afterwards, she found her self in great disorder, but her Husband chided her, persuading her it was only an apprehension because she had touched the *Arsenick*, which he said must have been so small in quantity that it could do her no harm; but she became still more faintish, till being oblig'd to retire to her Bed-chamber she fell down in a *deliquium* upon  
the

the Floor, and lost all her Senses before she could be laid in the Bed. The Physician from whom I had this History being call'd, gave her an *Emetick* which made her vomit a great quantity of this greenish Liquor, as in the former Case, after which she evacuated by the *Anus* several *Globules* of greenish *Coagulums*, each (as my Author inform'd me) of the Bigness, Colour, and near to the Consistence of pickled Olives. These Evacuations being over, he found it convenient to give her *Alexipharmicks*, by which she sweated plentifully and slep'd smoothly; when she awoke he observ'd all her Skin speckled over with livid and purplish Spots, and it pleased God by his diligence that within a few Days she recovered, and became perfectly well.

Thus you see the different Operations of *Arsenick* upon the Body, according to the different quantities administrated, for when a large quantity was given, then it produc'd violent and dismal Effects upon the Parts, to which it had the first access; but in the second Case we may observe how dangerous it is when given in a very small quantity; for though it could not produce its Effects at first upon the *primæ viæ*, yet after it was convey'd into the Blood along with the rest of the *Chylous* Substance being further attenuated, several of the Particles could return by the *Glands*, operate upon the

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inner

inner Surface of the Stomach and *Intestines*, and disturb their *peristaltick* Motion so far, as to make them throw out what was contain'd in them, ἀπὸ τοῦ γαστρίου and so far to alter the texture of the Humours in these *Glands* as to make them appear greenish, and be coagulated; that these Effects were not produc'd till after mixing with the Blood, further appears from these livid Spots, because such of the acrimonious and corrosive Particles as had been convey'd to the Blood were now expell'd (*extra aream circulationis*) at the extremities of the Capillaries, where hesitating they made a *solutio continui* of the *Fibrillæ*, and shew'd the appearance of this livid and blackish Colour.

I come in the next Place to shew you how far your valuable Treatise was useful to me in the first of these Observations.

The Husband of this Woman being carried Prisoner to *Edinburgh*, and try'd about three Months after, we who were the Physicians and Surgeons (being *subpena'd* as Evidences against him) came to be straitned in our Depositions, because of an Error in some Expressions in the Indictment; for whereas it should have only been term'd poisoned, &c. in the general, they expressly nam'd it *Arsenick*, upon which we being positively interrogated, none of us could declare upon Oath that it was *Arsenick* but by the Effects, for which we



we produc'd your Essays as an Authority, which satisfied the Judges; whence we may observe what a great Advantage it is to the Publick when knowing and curious Persons of your Fame and Reputation think fit to communicate their Thoughts to the World upon Subjects of that consequence; and as I am hopeful this short Dissertation will not be unpleasing to you, so you may be assured whenever I can learn of such or the like extraordinary Occurrences which probably may be worth your while, I shall not fail to acquaint you. Being

*Honoured SIR,*

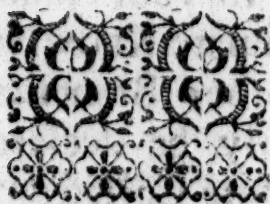
*Your most humble and*

*Obedient Servant*

Dundee March

the 20th 1710.

Patrick Blair.



\*\*\*\*\*  
\*\*\*\*\*  
*A Continuation of the Botanical  
Improvements in Answer to Mr.  
James Petiver's Letter.*  
\*\*\*\*\*

Worthy SIR,

\*\*\*\*\* Am much delighted with yours, by  
\* I \* which you have been pleas'd to ap-  
\*\*\*\*\* prove of what I wrote to you con-  
cerning the finding out the Virtues of the  
Plants by their Characteristick Notes, to  
favour me with some hints upon that View,  
and to desire I should go on in the prosecution  
of my Design.

If I should proceed in that orderly and me-  
thodical Manner the Subject requires, it would  
take up more time than either my present  
Conveniency or Circumstance will admit of;  
I shall only shew how far this Method is  
practicable, what Advantages do attend it,  
and how much it is capable to be improved,  
submitting all to your judicious Considera-  
tion, whose intimate Knowledge of the Plants  
and of all the other Branches of the natural  
History, can only be declared by those cu-  
rious and elaborate Collections and Writings,  
by which you are so universally known, and  
so deservedly esteemed both at home and  
abroad throughout the World.

By

By the *Lactescentes* mentioned in my last I do not mean all the Plants that afford a milky Juice, but those called by Mr. Ray *Herbæ flore composito naturâ pleno Lactescentes*, and by Mr. Turnefort *Herbæ flore Semiflosculoso*. We find that *Sonchus*, *Dens Leonis* and *Hieracium* too, (though by the roughness of the Leaves of some of its Species it is not fit to be eat in Sallads) have all the same Virtues with the *Lactuca* to which the *Endivia* may be added being an annual, and *Cichoreum* may be joined with *Tragopogon* and *Scorfonera*; as to the Roots, both in Broaths and winter Sallads, though the Seeds of *Cichoreum* and *Endivia* want the *Pappo* which all the rest of that Class have.

The *Asperifoliæ* of my last have four Seeds succeeding to each Flower, like the *Verticillatæ* and *Spicatæ*; the Leaves of both Genus's are undivided, but those of the one are larger and rough, alternatively plac'd upon the Stalk, and the *Segments* of their Flowers are equal, whereas those of the other are plac'd upon the Stalk in pairs, the *Segments* of their Flowers (which are disposed either in *Whorles* (*Verticillæ*) or *Spikes*) unequal, some resembling an Helmet, others having upper and lower Lips, and a third sort having only a lower Lip.

All the *Asperifoliæ* are of a cooling gross astringent or soporifick Nature: The *Borrago* and *Euglossum* were by the Ancients in the  
hot



hot Countries esteem'd Cordials, because they allay'd the Motion of the Blood, by which the Body was refresh'd, whereas in those colder Countries, what can augment the Motion of the Blood and quicken the Spirits, are look'd upon as Cordials. *Pulmonaria* by the Figure of its Leaf was esteemed good for the Lungs by the Ancients, but its Effect that way proceeds from its moderate astringent Quality, by which it prevents the spitting of Blood, and from its gross Particles which thicken the thin acrimonious Humours extravasated in the *Bronchia*, and which are the cause of the dry tickling Cough.

*Consollida Major*, so called from its operation in the Body, is both astringent and viscous, by which it's more potent in the fore-said Cases of a dry Cough and spitting of Blood. *Cynoglossum* consists of yet grosser Particles, by which it allays the Spirits, so as to dispose the Body to Sleep; I do not attribute the bad Effect of that Species of *Cynoglossum*, whereof in my last, to any poisonous Quality in the Plant but to the People their exceeding in the Dose, v. g. though neither *Emeticks* nor *Purgatives* can be said to be poisonous in themselves, yet by exceeding in the Dose they may become so violent in their Operation as to undo the Patient; and indeed both our Meat and Drink may become Poisons if we take them to too great an Excess.

The

The *Galeata* and *Labiata* have Particles either more subtile, as *Lavendula*, *Rosmarinus*, *Majorana*, &c. which are called *Cephalicks*, or *Mentha*, *pulegium*, *Melissa*, &c. which are esteemed *Stomachicks* and *Antihystericks* also, others are of Particles not so subtile as the *Salvia's*, *Horminum's*, &c. which are good *Attenuaters* or *Inciders*; a third sort of them are somewhat astringent, as *Bugula*, the *Lamiums*, &c. The Virtues of all these may be known by their Notes, so that if one have but a general Idea of the Virtues of a *Majorana*, *Mentha*, *Salvia*, *Lamium*, &c. he may soon come to know what are the Virtues of their Congeners.

All the *Papavers* and *Argemone's* are *Lactescent*, but their Virtues are *Narcotick*, in which all that genus agree, for we do not reckon the *papaver Corniculatum*, nor *Chelidonium majus*, *papavers*, notwithstanding of the *Calix bifolius fugax*, and some resemblance in Figure of the Leaves, with their *Tetrapetalous* Flower.

All the *Esula's*, *Tithimals*, *Cataputia's*, &c. are *Lactescent*, but these are violent *Catharticks*: There are likewise some of the *Capanula's* *Lactescent*, so that when I speak of *Lactescent* Plants I would not be so understood as if I meant that all *Lactescents* have the same Virtues, but that all *Lactescents* of the same Tribe do coincide in their *Vires*.

What

What you observe of the Plants *flore Muscoso donata*, or *Apetalo* of Tournefort, is very just; that they are all sweetners of the Blood, and correctors of scorbutick Taints; they seem to have a certain nitrous Salt, which not only correct the acrimonious scorbutick Salts, but also stimulate the Intestines and provoke them to Excretion, by which they may be called *Alvum blande Laxantia*, this appears more especially in the *Beta*, whose Juice being suck'd up by the Nose causes a great evacuation of Humours that way, and makes an excellent *Errhine*, by which such Plants as the *Parietaria* and *Mercurialis* may be distinguished from the other *Emollients*; such as *Malva* and *Althæa* in the *Herbæ communes pro Clysteribus*; and here the Sagacity of the Ancients is very observable, who being ignorant of the Methods now made use of for finding out the Virtues of Plants, did so opportunely join the stimulating *Parietaria* and *Mercurialis* to the emollient *Malva* and *Althæa*, whereby the internal tunicle of the *Intestinum Rectum*, fretted by the sharpness of Humours or hardness of Excrements (too long retain'd in them) may be softned, and its Fibres relax'd; while by the stimulus of the *Parietaria*, &c. whatever is contain'd in or was hurtful to the Intestines may be expell'd.

All this *Malvaceous* kind which agree in Flower and Fruit, are as much *Emollients* as the *Cinquefoil* and *Pentaphylloïd* kind are astringents,



stringents, for as *Althæa* and *Malva Arborea* with their congeners agree with the different Species of *Alcæa* and *Malva*, vul. so does the *Heptaphyllous Tormentilla* and *Argentina*, whose Leaf consists of several Pairs adhering to a *Midrib*, agree in their astringent Quality with the *Pentaphyllum*, for all of them have the same Flower, the same *Perianthium* of broader and narrower Leaves alternatively plac'd, the same *Stamina* and naked Seeds: The *Pentaphyllum palustre* it's probable is not so astringent as the rest, the different Soil may alter that, its Flowers are Purplish; The *Tormentilla* is distinguish'd from its congeners by its *Tetrapetalous* Flower, though I have often observ'd it *Pentapetalous*, and sometimes *Heptapetalous*; so that the Number of the *Petala* is no certain *Characteristick*.

Of all the *Malvaceous* kind the *Althæa* is the most viscous, and therefore, it may the more effectually be prescrib'd when the obtunding of Acrimony is the design, so that all the internal Preparations of it must be of great Use in the Gravel, when we would either correct the sharpness of the Urine, or relax the distended Fibres of the Ureters and Bladder, fretted by the roughness of the Stone.

*Malvaceous* Preparations, and those of *Althæa*, are likewise of great Use, when sharp Humours affect the Lungs and prick the nervous Filaments in the internal Surface of the *Larinx* and *Bronchiæ*, causing that trouble-

some Symptom of a dry Cough; for these emolient and viscous Particles not only (as it were) sheath the sharp Points of these Humours, but also thicken their thin and serous Consistence by which they are more easily suspended by the Air, and expell'd by the Muscles of the Thorax compressing the Lungs at the Expiration.

The *Plantain* kind are all astringent, it's probable *Sea Plantains* because of the different Soil may not be so astringent as the rest; they are effectual in *Hemoptoe's* and dry Coughs, the *Psyllium* Seeds are more viscous, and make an excellent Muffilage for the Eyes, for they both put a stop to the Inflammation in the *Optthalmia*, and correct the acrimonious Humours by the Viscosity of the Particles.

It's a common *Maxim omnia amara Stomacho grata*, of these we have two sorts, the *Corymbiferous* and *Gentian* kind of the first we have, all the *Absynthia*, the *Abrotana* and the *Artemesia* which is not so bitter, and is reckned more *Anti-hysterick*. The *Chamemela* and *Matricaria*, both which are potent *Anti-hystericks* also, and of these it may be said, that whatever is a good *Stomackick* may likewise be look'd upon as good to remove the *Hysterical Distempers* too, for when the Humours of the Stomach are corrected, the Fomes of that Distemper is in a great measure remov'd. The *Tanacetum* is a most potent Bitter and good

good in the foresaid Cases, though its unpleasing Taste makes neither it nor the *Abrotanum* *Mas* be so frequently taken inwardly, but they are assisting with the *Absinthium* and *Ruta Hort*, (which is a *planta suæ generis*) in killing of Worms; another good Effect attributed to the Bitters.

I could mention others of these *Corymbiferous* Plants, but these may suffice for Examples.

The *Gentian* Bitters serve all for the same purposes of being *Stomackicks* and *Anti-hystericks*, to which may be added the *Centaureum minus*, which to me seems to differ very little from the *Autumnal gentians* in *Characteristicks*, but only that the Flower of the *Centaureum* is expanded, and that of the *Gentianels* are scarce ever blown, which can make no alteration as to their Virtues, since as to their manner of growing, *Leaf*, *Taste*, and *fructification*, they agree.

Most of the annual *pomiferæ scandentes*, such as the *Melo*, *Pepo*, *Cucumis*, &c. agree in their Vires, and their Seeds may without distinction be used among the *semina quatuor frigida Majora*. The *Cucumis asininus* and the *Colocynthis* differ from them both being violent *Catharticks*, but as the *Cucumis asininus* is not the same with the *Hortensis* in its *Fructification*, neither does the *Colocynthis* agree with the rest of the Class; and here we may observe, that if there be any considerable dif-



ference in the Virtues of the Plants, having the same *Characteristicks* that's usually pointed out by some remarkable difference in the *externa plantæ facies*, by which there is as it were a reason given why those of such a Tribe do not agree together.

The succulent Plants consist chiefly of very gross Particles, such as the *Seda*, which are esteemed great Coolers, and such as allay the heat of Inflammations, as do likewise the *Crasula* and *Rhodia Radix*.

Among the Purgatives, Dr. *Herman* says, the *Mecboacanna Turpetum* and *Scammonia* are *Convolvuli*, to which we may add *Soldanella*, as violent a *Cathartick* as either, all these agree in Flower and Fruit. But he seems to be mistaken in the *Jallapa*, which he classes along with them, for latter Discoveries have found it out to be the Root of a Species of the *Mirabilis peruviana*, which is not a Climber though it somewhat resembles them.

Dr. *Morison* classes the *Gratiola* with the *Digitalis*, they seem to agree in their Virtues, for as the *Gratiola* is said to be violent in its Operation of purging and vomiting, so is the *Digitalis*; and as a Proof that it's indow'd with such pungent Salts, as are ready to provoke both Stomach and Intestines to Excretion, we may consider its discutient Faculty when apply'd externally in Ointments, &c. to *Scrophulous* and *Schirrous Tumors*,

Which

Which leads me to the *Radices Bulbosæ* near of Kin to the Flower, but especially the Fruit of the *Bulbosis Affines* of Mr. Ray (the *Irides* mentioned by you,) which according to Mr. Turnefort are *flore Lileaceo donata*; not says he, because all of them have the same Shape of a Flower, but because all of this Class have a *Tricapsular* Fruit. We may look upon all the *Squamous Bulbous* Roots to have much of the same Virtues, The larger kind such as the *Lily's*, they (whether *White* or *Orange*) are potent *Emollients* in *Cataplasms*, and so are the lesser, called by Mr. Ray *Graveolentes*, viz. *Allium, Capa, porrum*, though all of them have a subtle penetrating, or what we call an hot taste; as well as an high smell, yet when they are boil'd or roasted, these tenuous Particles evaporate and the more emolient remain, by which the *Cataplasms* made of them become so effectual in the suppurating of *Tumors*.

I am very well pleas'd with the account you give me of those exotick *Species* of the *Irides*, which afford us *Simples* of so great Use in the *Materia medica*, I wish every Person who dive into the Knowledge of Plants, would be at such Pains as you are, to find what are the *Species* which produce such and such Drugs, for then we should not be at so great a loss to know whence we receive the *Specimens*, whereof the *Materia medica* is

is composed, nor would we be so ignorant of the Virtues of several of them.

It's observable that the several Species of the officinal *Irides* differ in their Virtues, because of the difference of the Soil, and according to the time they are made Use of, v. g. the Juice of the *Iris palustris Lutea* and *Germanica* purge serous Humors, and are prescrib'd along with the *Syr. de Rhamno* in Hydriack Cases, and yet the dry'd Root of the *Lutea* is astringent and good in *Diarrhea's* and *Dysenteries*, I know not whether the *Germanica* be astringent too, but that of the *Iris Florentina* is an attenuater; it's probable the Soil may be the reason why the *Lutea* is more, and the *Culture* why the other two are less astringent; The purgative Quality in the Juices may proceed from some volatile pungent Salts which open the Pores of the Intestines, and dispose the Glands to Excretion, which being evaporated in the drying the remaining gross and earthy Particles exert their astringent Quality, and the Root of the *Iris Florentina* may be said to be astringent in this sense too, for by curbing the acrimonious Humours in the Intestines (though its Particles are not fully so gross as those in the *Lutea*) it may prevent that frequent desire of going to Stool in the *Diarrhea* and *Dysentery*, as well as it curbs the sharp Humors in the Lungs by which it is so effectual in the Cough.

We



We likewise find that the new Juices of all the Roses Purge, while their dried Leaves are binding, particularly those of the scarlet Rose, as is observ'd by that accurate and expert Botanist the ingenious Mr. Rand.

There is another Maxim observ'd by Dr. Herman concerning the *Umbelliferae* mentioned by you, viz. That all their *striated* Seeds are *Carminative*, which holds in the *Anisum*, *Carum*, *Coriandrum*, *Feniculum*, *Apium*, *Petroselinum*, *Imperatoria*, *Angelica*, *Myrrhis*, *Cherifolium*, *Levisticum*, *Meum*, &c. These two last agree very much in their Taste and Virtues, though they have no resemblance in their *facies externa*. This simbolizing of theirs seems to be pointed at by their Tufts or Beards which surround the *Germina* of their Roots as they spring forth.

But there are other *striated umbellifrous* Seeds, produc'd by Plants, which are said to be poisonous. You have vindicated the *Cicuta major vulg.* from that scandal, but *Wepferus* shews the *Cicuta, aquatica major* to be so. The *Cicuta minor petroselino similis* and *Oenanthe aquat succo viroso* are still not without good Grounds suspected. There was some Years ago at a Place near to where I lived, a Bridegroom at his Marriage Feast poisoned by a Mess of green Broth, where it was found out that a Servant had accidentally put in this *Fools Parsley* instead of the common *Parsley*. And an Eminent Physician

fician of my Acquaintance had like to have  
 been serv'd the same fauce, had not I been  
 accidentally with him, for being together at  
 a Gentleman's House we saw a good variety  
 of Plants, among the rest was this *Œnanthe*  
*aquat* planted along with the Pot-herbs.  
 The Gardener being Ignorant what it was, I  
 made him remove it from thence. But the  
 Doctor having din'd before I came thither,  
 had got a Dish of green Herbs, among which  
 there had been some of this mixed. After  
 we were gone to Bed, being uneasy in his  
 Stomach all that Afternoon, he was in great  
 disorder, had severe *tormina Ventris*, and  
 purg'd and vomited a great deal of green Stuff;  
 but by taking an Emetick, and after the O-  
 peration was over, taking some Drops of li-  
 quid *Laudanum* he fell asleep, and was hap-  
 pily cured. An Apprentice to an Apothecary  
 of my Acquaintance, seeing a good Quantity  
 of this *Œnanthe aquat succo viroso*, growing  
 in a moist Place by a River, brought the Roots  
 of it to his Master's Shop, instead of the  
 Roots of *Apium*, whose Leaves do resemble it  
 while Young; but the Apothecary knew more  
 of Herbs than to be thus deceived.

Not long ago a Servant Maid having got  
 a Hodge Podge of green Herbs from a Gar-  
 dener, to be infus'd among Ale for a Dyet  
 Drink; when she began to drink of it, she in-  
 vited an Acquaintance to drink of it also, who  
 only tasted a little of it; she who drank most  
 became



became in a short time so swell'd, that within Twenty Four Hours she died ; the other finding her self in great disorder, and being fright'ned with what had happened to her Acquaintance, sent to me speedily : I sent her an *Emetick* and an *Alexipharmick* and *Sudorifick* *Potion*, the swellings were much advanc'd before she began to Vomit, but upon her opportunely making use of both, she was happily cured : Upon Examination it was found that this *Cicuta minor petroselino similis* had been accidentally put into the Composition.

Two or three Persons not far from hence, having got into a Gentleman's Garden, were delighted with the *Black Berries* of the *Solanum Letbale*, and eat some of them, it was very pleasant (within a short time after) to see their frantick Humors, Gestures, and Speeches ; but upon their taking of *Emeticks* in due time, they were cured.

A Gentleman's Son, several Years ago, near to the Place where I lived, (being then a Child) having mistaken the Roots of the *Hyoscyamus niger*, (which were thrown out by the Gardiner,) eat several of them. In a short time after he fell in great disorder, he would Cry out, Weep and Laugh ; have the *risus Sardonius*, Leap, Dance, and have melancholy and dumpish Fits by turns, and that for the space of three Days till he died, being about seven or eight Years of Age ; it was sometime



before his Parents knew he had eat these Roots, which made them not be so hasty in calling for help.

Such another Accident was like to have happened some Years before, near to that Place, where a parcel of School Boys fell a eating of *Henbane* Roots, thrown over the Wall by the Gardiner, which they mistook for *Parfnip* Roots ; they were all variously affected with different Humors and Tempers, but none of them for what I understand did die. One of them still alive was affected with this *risus Sardonius*, or a distortion of his Mouth when he did Laugh, which Gesture still continues.

I have given you here an account of the effect of several poisonous Plants I pretend not to account for the manner of their Operation, but these Examples may shew that an Apothecary ought to know more of Plants than to trust to Boys, or the Herbwomen at *Stocks Market* or *Covent Garden* in *London*, or at the *Cross* of *Edinburgh* ; that Physicians, especially those who Practise in the Country, should know them, to prevent their being imposed upon by Gardiners ; and that it is not always convenient to trust Gardiners with the gathering or mixing of medicinal Herbs.

Thus Sir, I have given a Cursory View of that Method of knowing the Virtues of the Plants by their Notes ; I could have enlarged upon

upon this Subject, and likewise shewn the several Exceptions which may be produced against it, but being unwilling to become tedious in exceeding the Bounds of a Letter, I conclude with an earnest desire, that you would continue in the Prosecution of those laudable Studies, in which you are capable to make such considerable Improvements. Being

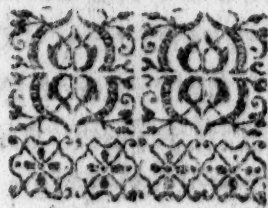
*Worthy SIR,*

*Your most humble and*

*Obedient Servant*

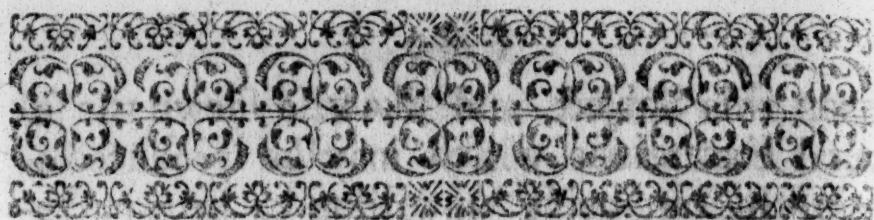
Dundee March  
the 20th 1710.

Patrick Blair,



L. a

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## Second LETTER

To Dr. Richard Mead concerning  
*some Epidemical Diseases in*  
Scotland.

**T**HE Account I have had of your  
kindly receiving my former Letter,  
has made me presume to salute you  
a second time, and to inform you of what  
Distempers lately have and are still raging  
among us.

I. That Epidemick Distemper, which as I  
understand, was the first Fruits of our Cessa-  
tion of Arms with *France*, flowing over to  
*Britain* upon our first taking Possession of  
*Dunkirk*, made as hasty Pace unto, as it was  
of short continuance among us; I do not re-  
member to have heard of any Distemper so  
universally to sieze all, so quickly to be gone,  
and to carry off so few. I doubt not its  
Symptoms were well enough known with you,  
and therefore shall not insist much upon  
them. Those of our Profession here look  
upon



upon it to be the true *Febris Ephemera*, because it continued only one full Day. But it might otherwise be called *Febris Tridua*, for it usually siezed the one Day, continued the Second, and went off on the Third. I have seen its Symptoms have a very dreadful Aspect, *viz.* severe *Dilirium's*, violent Pain in the Head, sometimes in the Back, and always accompanied with a Pain in the Throat. I found the general Evacuations the most effectual Cure, which I the more readily applied, because in that Case it was hard to distinguish betwixt it.

II. And another Fever, which I foresaw was inevitably like to follow upon the Back of it, as indeed it did. This Fever was of a much longer continuance; if well treated it usually began to decline upon the ninth Day, and went off upon the Sixteenth or Seventeenth, according to the Habit of Body; it neglected at first, the Patient was carried off upon the sixteenth, seventeenth or eighteenth Day. It had no spots nor any other sign of Malignity, save that of its being Infectious; it was not so universal as its forerunner; both generally siezed with the same Symptoms, and had the same Pulse, *viz.* languid at first, and after repeated Blood-lettings reviving apace. And, as I have said, I could make no distinction betwixt them, save that of their continuance; for it was cured by

by the same means with the former. If this Distemper has been with you I know not.

We had an account of this *Febris Ephemera* (or *Tridua* as I call it) sometime before we became to be acquainted with it here, and that it had affected most Persons there with you at *London*, where it was called the *Dunkirk* Fever, as I have observ'd, from whence it made its Progress towards the Northern Parts of *Britain*. I think there was about six Weeks betwixt the time that it was so universally known with you, and of its beginning to be observed with us. It made such haste both as to its coming among and going from us, that it was called the *galloping Fever*. Whatever was in it, it certainly carried much of Malignity along with it, for beside those dreadful Appearances it made with some, depriving them of their Senses all at once as it did. It seldom went off without very bad Effects, for such as neglected those Evacuations which are necessary to carry off such noxious Humors, as frequently remain in the Body, after the being cured of contagious and infectious Diseases. They seldom escap'd either of being threatned or seized with Distempers of worse Consequence. Thus if the forementioned Fever of a longer continuance did not follow, then they were in Danger of a violent Cough, *Hætick*, Head-ake, or such like Distempers; whereof there were several who continued my Patients for some Months before



before they were reliev'd from its bad Effects, by which we may see what Care ought to be taken to remove noxious and malignant Humors, introduc'd into the Body by *Epidemick* Distempers. The third

III. Distemper is, what I suppose you have got no Account of, being as yet but little known in this Country (where it took its rise,) except in a few Corners thereof. We general compute its Date to commence at the famous Battle of *Killy-chrankie*, soon after which it began to appear. It has not as yet spread far, but wherever it takes it is very infectious. It is a common received Opinion, that the *Lues Venerea* is not any ways propagated but by impure *Concubitus*, and yet this Distemper is the very same with it, except its not being introduced by a *Coitus*, nor preceded by a *Gonorrhœa*, neither for the most Part accompanied with *Buboes* nor *Chankers*. It spares none, affects the Sucklings, violently seizes those under Age, and such as can be no ways suspected to have a *Lues Venerea*: It is generally known four Ways. First by *nocturnal Pains*, which degenerate into *Nods*. Secondly, by an *Exulceration* of the *Throat*, landing in a *Carious Palate* and falling off the Nose. Thirdly, *Cacoëthes* Ulcers over all the Body. Fourthly, *Cotyli-dones* here and there upon the Body, or dry elevated *Pustuls* unequal in the Surface, not unlike the Fruit of the *Rubus Idæus*, commonly



ly called with us, the *Sivvans* (from which the Disease takes its Name) being much of the same red fleshy Colour with that Fruit when Ripe. The *Cotylidones* affect most Parts of the Body except the *Pudenda* in both Sexes, by which alone it may be distinguished from the *Lues Venerea*. This Distemper is so Contagious, that if any Servant labouring under it (as it is generally that Rank of People that are most affected with it) do take Care of Children, be in more frequent Converse with other Servants, or in a Word, if their Bed-cloaths be mixed with those of the Rest of the Family, it seldom goes off without communicating it Self to someone or other of them. This I've known by experience, and generally those have been either Sucklings or Underlings, as I have said, about ten or twelve Years of Age, and sometimes those of betwixt Twenty and Thirty, whose Behaviour could give no ground to suspect its being Venereal.

It now remains, that I enquire into the Origine, and inform you of the ordinary Cure of this Distemper. As to the first, after a more serious Consideration of the Matter, I can find nothing more Reasonable than that after the Battle of *Killy-brankie*, when, the Souldiers, being dispersed all over our Highlands, had a greater Occasion of diffusing their Impurities in those Parts of the Country, than perhaps ever before, and of infecting the Females there.

Now

Now Highland Nurses being always much valued by those in the Low lands, because of the wholesomeness of their Food, had in all probability communicated it to the Children on their Breasts, upon whom it appeared with that variety of Symptoms I've told you of. Again, those Children it seems, by the Effluvia, or Transpirations from their Body, communicated it to their dry Nurses, as we call those who take Care of them after weaning, and hence it is probable it might have become Contagious. This I only give you as a Conjecture. However, by the Symptoms given, I'm of Opinion it may be termed *Lues Venerea Notba seu Spuria*, as will further appear by the Cure. When first this Distemper began to break out, it was generally taken for an inveterate Pox, to which no *Gonorrhea* had preceeded, whereupon they endeavoured to carry it off with Doses of *Merc. Dulc.* which in some succeeded pretty well, in others not at all. For such as are seized with it are most uneasy to Work upon, so that I've been obliged to give prodigious Doses of Mercury without any sensible Effect. And if once Mercury be essay'd in this Distemper, and not brought up to a sufficient Height, the Patients Body becomes almost impregnable. Insomuch, that I have given two Scruples of *Tupeth. Mineral* for a Dose, without any apparent Effect: And a Solution of *Mercur. Crud.* in the Spt. of Nitro



externally to the Ulcers, which yet have not yielded. The usual Cure of this Distemper is strong *Emeticks*, either with *Turpetb. Mineral*, or *Gut. Gamb.* strong mercurial Unctions in Case of Nodes and nocturnal Pains, Mercurial Lotions and Unctions externally to the Ulcers, and *Mercur. Dukt.* or *Turpetb. Mineral* internally with several purgative Doses, alternatively given when we have a mind not to carry it off with a total Flux. But to be sure, this Mercurial Diet is not to be given over till the Cure be performed, otherways the Distemper recurs, and becomes more violent, and Remedies ineffectual as is said. So that you see how near of Kin this is to the *Lues Venerea* in its Signs, Symptoms and Cure.

It is very observable, that altho' this Distemper has been raging among us these 24 Years past, yet it has not much exceeded the Bounds of 4 or 5 Parishes to this Hour. So favourable is good Providence in restraining the Progress of a Distemper, which otherways might prove very noxious to a whole Country, and in saving the better Rank of People from its Infection. I have of late been inform'd, that it now Rages near to *Inverness* and *Inverlochy*, which must have been communicated to the Inhabitants of those Highland Countries by the Soldiers, as is above observ'd.

There



There are several other Epidemick Distempers which have rag'd among us, such as *Rheumatick* and *Pleuretick* Fevers of late Years, which seiz'd the Patients so violently at the first, that they were carried off in a very short time, unless Blood-letting had been timously administrated and often repeated, to such a Quantity as one would have thought they could not bear it. I have seen one Hundred Ounces and above taken before the Symptoms would yield: After which extraordinary Evacuations there have succeeded eruptions of *Pustuls* all over the Body; swellings of the Limbs, shortness of Breathing, *Ptialismus* or spitting of a great Quantity of *Defluction*, most of which Symptoms have prov'd Critical. *Belini* in his *Treatise de Missione Sanguinis*, and our learned *Dr. Pitcairne*, did us great Services upon these Occasions. We have likewise every fourth or fifth Year the small Pox, Measels, &c. which prove Epidemical; but the great Advantage is, that Children with us (for the most part) have them before they are seven or eight Years of Age; whereas I understand that in *England* few have the small Pox till they be Men and Women. They are some Years more dangerous and sweep away a great many Children, and others more favourable. Not long ago, both the small Pox and spotted Fever seiz'd the Patient at once; this proved very dangerous

in those who were not of a healthful Constitution, but in strong and robust Children the livid Spots appeared in the *Interstices* betwixt the *Pustuls* of the small Pox; and tho' the Pox had blackned and gone off, yet the Spots continued their ordinary time. Nay, I have even seen *Furuncles*, *Carbuncles* and *Sphacelations*, along with the small Pox, whose Lips (after the Mortification was fallen off) were hard and bad to digest, and yet the Patients have been cured. The *Tussis convulsiva* or *Chink-cough*, is also some Years *Epidemical*, and becoines universal among Children; as is a certain Distemper with us, called the *Croops*, with this Variety, that whereas the *Chink-cough* encreases gradually is of a long continuance, seizes in *Paroxysmes*, and the Patient is well in the Interval. This Convulsion of the *Larinx* as it begins so it continues, so violently, that unless the Child be relieved in a few Hours, 'tis carried off within twenty four, or at most forty eight Hours. When they are seized they have a terrible Snorting at the Nose, and squeeking in the Throat, without the least Minute of free Breathing, and that all of a sudden, when perhaps the Child was but a little time before healthful and well. The most immediate Cure is instant Bleeding at the Jugular, either by the Launcet or Leeches; when the most urgent Symptoms are gone, then



then *Emeticks*, or the like, are administred at Discretion.

Before I conclude, I must acquaint you with another *Epidemical* Distemper which rag'd among us some Years ago. It happened Anno 1696. when there was a great Famine here in *Scotland*. The ordinary Food of the meaner sort of People, who lived in the eastern Parts of *Fife* is Fishes, which they then did eat in greater abundance than usual for want of Bread. This introduc'd a *Dysentery* among them, which became so Contagious, that it swept away a great many People of all Ranks and Qualities; I am not certain whether it spread over the whole Country, (for I was then in the low Countries for my further Improvement in my Profession) I believe it did not, but wheresoever it came it was Mortal, and might truly be called a Plague, for the *fluxus Sanguinis* was so violent, and the *Tormina Ventris* so very severe, that they whom it seiz'd were generally carried off in a few Days. I have been credibly inform'd of one Instance. A young Gentlewoman seiz'd with this Disease, having by the Strength of her Youth escap'd the fatal Blow, and being happily recovered thought fit to go some Miles distant into the Country (whether this infection had not yet arrived) to remain with an Acquaintance of hers for the benefit of the free Air. She and her Friend one Day walked in the Fields till they were both pretty Warm,



Warm, and that very Night her Friend was seiz'd with the same Distemper, where the Evacuation was so extraordinary; that she died within a few Days, notwithstanding of all Endeavours to the contrary; and one or two of her Relations who attended her during her Sickness died sometime after of the same Distemper. The *Rad. Ipecacuana* was esteem'd a great *Specifick* in this Disease, and it was then so rare that it was sold at a Guinea a Dose.

How long this pestilent Disease continued I cannot well inform you; I believe it was only for two or three Months, but I know it did a great deal of Mischief wheresoever it came. There is no doubt but Fishes when not well seasoned and taken without Bread are unwholsome, and I suppose it was the want of that which introduc'd this Contagion; for the meaner sort of People in that Country, live for the most part upon Fishes, eat a great deal of Bread along with them, and are Strong and Healthful. I may observe a second time that it's highly requisite to purge off the noxious Humours after the recovery from contagious and epidemical Distempers; and that People should beware of the *Effluvia* of such, until they are well assur'd that they are thoroughly recovered.

There have been a great many such Distempers, which during my long Experience

in

in the Practise of Physick, I have observ'd to be Epidemical, but since I doubt not but most of them have happened to you there also. I shall trouble you no further but to declare my Willingness to communicate to you whatever I shall hereafter have an opportunity to observe. Being

Honoured SIR,

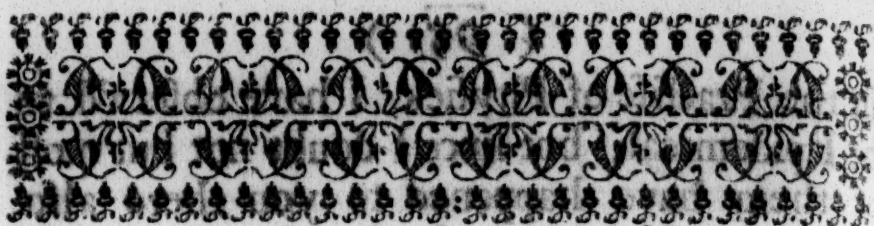
Your most humble and

Obedient Servant

Cowpar of Angus  
July the 6th 1713.

Patrick Blair.





## Third LETTER

To Mr. James Pettiver, containing a more exact Description of several indigenous Plants.

Worthy SIR,

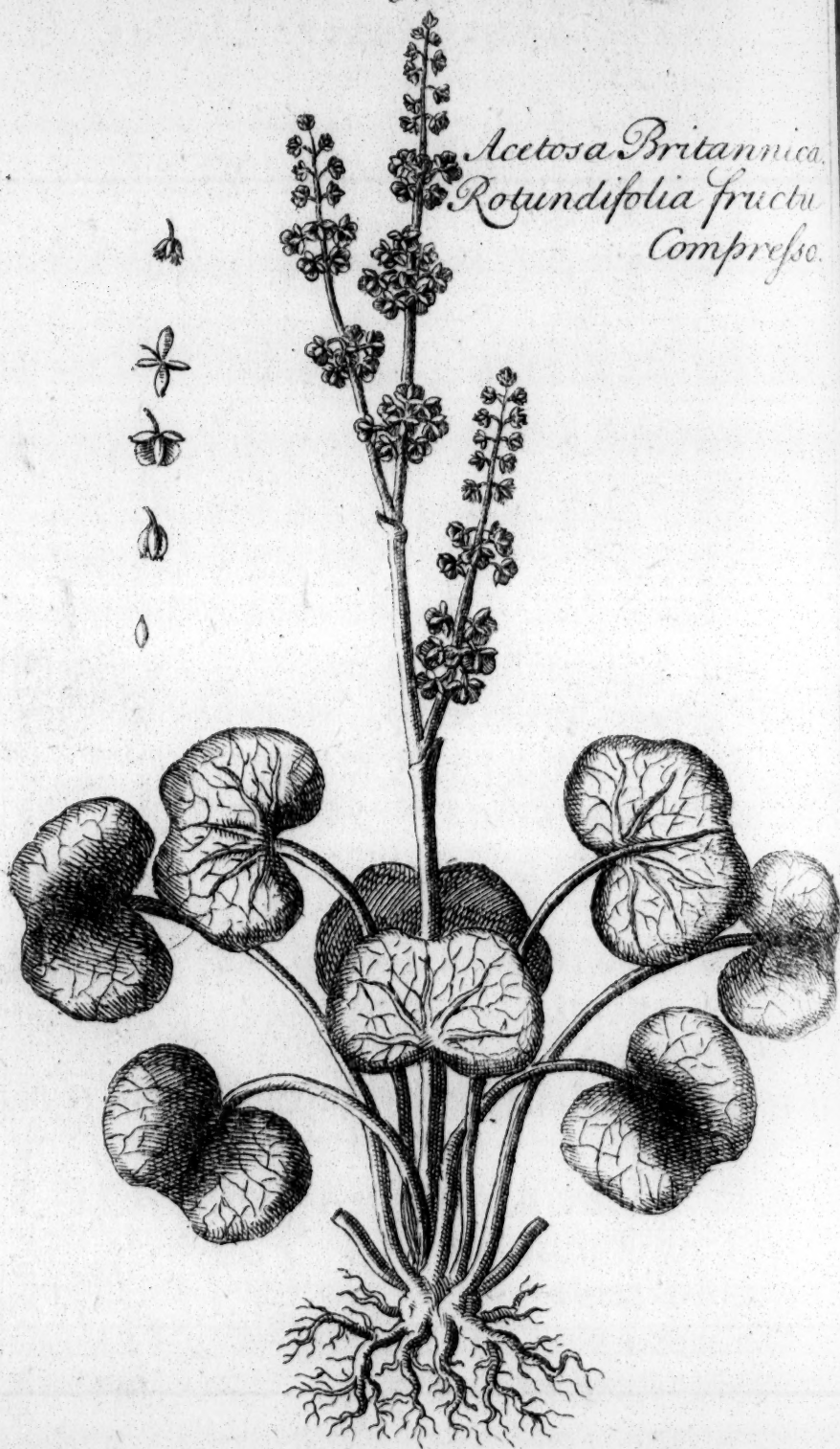
Received yours, by which I understand, that my last (tho' not digested into such a Method as the Subject requir'd) was acceptable. And since you desire I would continue in improving of the *Botany*, I here present you with a more exact Description of a few indigenous Plants, which I hope you'll accept of as a Testimony of my willingness to serve you in that Science, or in what else you shall think fit to desire of me.

I have seen a Sorrel both in our Highlands and Low-Country; which since I understand, it is indigenous in several Places in *England* and *Wales* as well as in *Scotland*; And since, by the silence of most Foreign Authors, particularly *Montingius*; who has writ





*Acetosa Britannica.*  
*Rotundifolia fructu*  
*Compresso.*



writ a *Treatise* expressly upon the *Rhabarbara Lappatha* and *Acetosa*, I find it more peculiarly belongs to this Island : I have given it the general Epithet of

## I. *Acetosa Britannica*. T A B. I.

**A** *Cetosa Britannica, fructu compresso. Nobis, Cambro-Britannica, Montana, Park Westmorlandica, & Cumberlandica, D. Lawson, Cochleario-fol. mont, D. Lhwyd, Rotundifol. Eboracens, repens, fol. in medio diliquium, patiente, Moris. Hist. Oxon. Round Leav'd. British Sorrel. Herb. Brit. Raii Tab. Fig. 4.*

It has a long, round, woody, jointed and knotted white Root, covered with a red Bark and several loose redish Scales, especially in the first Year (towards the *Germina* or new Buds,) lying obliquely and superficially in the Ground, divided into several Portions, each about the bigness of ones Finger at its upper, and Fibrous at the lower Part. From these Portions, do proceed five, six or seven, dark green *Leaves*, supported by so many Pedicles or foot Stalks three or four Inches long, lying flat and disposed as it were in a Circle upon the Ground. These *Leaves* are concave and smooth at the upper, and convex more Rugous with several *protuberant divaricated* Veins in the lower Part ; their Figure is somewhat round or inclining to quadrangular, having a *sinus* in the fore part,

N and



and a *Crena* behind, where they are join'd to the *Pedicle* larger from the Right to the Left, than from before to behind. Amidst of these Leaves thus dispos'd arises an upright crested naked Stalk, jointed and branched at the upper Part half an Foot high, more or less, according as the Plant is Luxuriant. The small Flowers hanging downwards, and supported by small *Pedicles*, are dispos'd in Intervals round the Joints, at the upper Part both of Stalk and Branches, *Stamineous* or *Apetalous*, with either yellow or red *Apices*, and a *Tetraphyllous Calix*, two of whose Leaves (which are more narrow,) do afterwards become a basis to, and the other two (broader ones) form a thin membranous flat *Capsula*, whose Margines are Redish in some, and Yellow in other Species, according to the Colour of the preceeding *Apices*, containing a small three square pointed *Seed*, brounish and shining when ripe.

By the foregoing description, this *Acetosa* differs from all its *Congeners*. As 1<sup>st</sup>, From the other *Lappatha*, whereof as Mr. Ray justly observes these *Acetosa* are of Kin, and therefore he calls them *Lappatha Acetosa*. And more particularly. 2<sup>dly</sup>, From the *Acetosa Romana* with which several Authors have through mistake confounded it. Mr. Ray informs us that a certain Gentleman mentioned by Dr. Lbwyd, would needs perswade that it was the

the same with the *Acetosa Romana*, and that after being three Years cultivated in a Garden it chang'd its Shape and became like the other, which gave ground to another mistake, viz. that there were two different Species of it, viz. the *Cambrobritannica* and *Westmorlandica*; for the ingenious Mr. Ray says however, the *Cambrobritannica* might do so, he is sure the *Westmorlandica* does not, and I am persuaded neither do; for that would quite invert the order of Nature, whose Rules are as certain, unchangeable, and strictly observ'd, in the shape and structure of Plants; especially in those Parts of them which we call their *Characteristicks*, as in Animals, or any other of the natural Productions, Dr. Morison it seems not observing its Fructification, particularly, says, after describing its Leaf and manner of growing, *Quoad cetera cum priori* (i. e. *Acetosa Romana*) *convenit*. I doubt not but Mr. Parkinson has led him into this mistake, when he says the Seeds (I suppose he means the Seed Vessel too, from which he seldom distinguish'd them in these *apetalous* Flowers) are three square and Brownish like the other, viz. the *Acetosa Romana*; but there is a visible difference betwixt them. For 1<sup>st</sup>, The Leaves of the *Acetosa Romana* vary in their Shape, for some of them are *Auriculata*, *Cordata*, *Subrotunda*, *acuminata*, &c. whereas these in this are *Subrotunda sive ad quadrangulum vergentia*. 2<sup>dly</sup>, The Leaves

of the *Acetosa Romana* are smooth, somewhat shining, equal in their Surface, and of a lighter Green than those in the *Britannica*, which are darker, and have protuberent Veins on the one side, and depress'd on the other. 3dly, The Leaves of the *Britannica* seldom arise from the Stalk, whereas those in the *Romana* arise either from the Root or from the Stalk, without Pedicles or foot Stalks. 4thly, The Stalks of the *Britannica* are always Perpendicular, those of the *Romana* are for the most part bended at the Joints, sometimes Perpendicular and sometimes Oblique, all this, beside the flat Fruit in the one and three square one in the other, with the *Hexaphyllous* or *Tetraphyllous Calix*.

Mr. Parkinson tells us the first Account he had of this Plant was from Mr. Maurice Lbwyl of Presliernworth in Anglesey, from whence it was first called *Cambrobritannica*; it's called *Westmorlandica* and *Cumberlandica* by Dr. Lawson, Dr. Morison calls it *Eboracensis*, and I might with the same reason call it *Scotica* and *Perthensis*, for I do not remember I have heard that it grew naturally any where in Scotland, save in Perthshire, where I have seen it growing in divers Places, at a good distance from each other, as at the River of *Almond* near to the Wood of *Mezhuin*; at the River of *Erick* near to *Blairgowry* in the *Stormond*; but more plentifully in the Territories of his Grace the Duke of  
Athol,



*Atbol*, at the Rivers of *Tay* and *Timmel*, where I also saw the *Alchymilla Argentea seu Sericea*.

I'm of Dr. *Lawson's* Opinion that it's a mountainous Plant, and probably brought from them by the impetuous Floods of Water in the Winter Season, (upon which Account it may not improbably be the *Alpina* and *Scutata repens* of *Caspar Baubinus*, and brought to him from the *Alps*, though of later Times it has been only known to be Indigenous in *Britain*,) for I have always seen it in dry Water Courses, and it has frequently been removed either by the Floods or Shoals of Ice, so that it seldom keeps one Place for two succeeding Seasons, (though it be otherwise a Plant fruitful and productive enough) unless it has been in such a Place where the River had remov'd its Course, or it chanced to take Root upon some Bank which the River did seldom over-flow, where I have seen it in the greatest Plenty. And that I might be assured it did never change its Shape, I have taken care that it was cultivated in my Lord Duke of *Atbol's* Garden at *Dunkeld*, the Physick Garden at *Edinbrough*, whereof Mr. *George Preston* is Overseer, who for his great care in furnishing it with a considerable variety of Plants, and for his Alphabetical and Methodical Disposition of them in his Garden is much to be commended. I have likewise observed

serv'd it several Years in my own Gardens, but could never find the least alteration in it, save that it became more Luxurient, and that both the Leaves were larger and Stalks higher.

This *Acetosa* has the same Virtues with its *Congeners*, viz. by its sower Taste it is good in Sallads, and is esteemed a Cooler. Its Roots agree in the Virtues with the other *Acetosa*, which afford a redish Tincture when infus'd, and have a white, not like most of the *Lappatha*, which have a yellow Root like the *Rhubarbs*. This Plant has not the sterile and fertile Flowers, as you observe in the *Acetosa Lanceolata*; but that with the red *Apices* is a distinct Species from that with the yellow ones, as is observ'd.

II. I'm ready to think the *Alchymilla argentea seu Sericea*, *Herb. Brit. Raii Tab. 9. Fig. 11.* may be a mountanous Plant also, because I have seen it twice grow wild in dry water Courses with the former, and do suspect they were both hurried together from their native Soil in the Mountains: It's an elegant Plant, has the *Characteristicks* of the other *Alchymilla*, save that its Leaves are much less, and deeply divided into five or seven *Segments*, joining together at the foot Stalk like the *Pentaphylla*, the reverse or back part of the Leaf is of a fine shining silver Colour,  
it





*Companula Aquatica.*

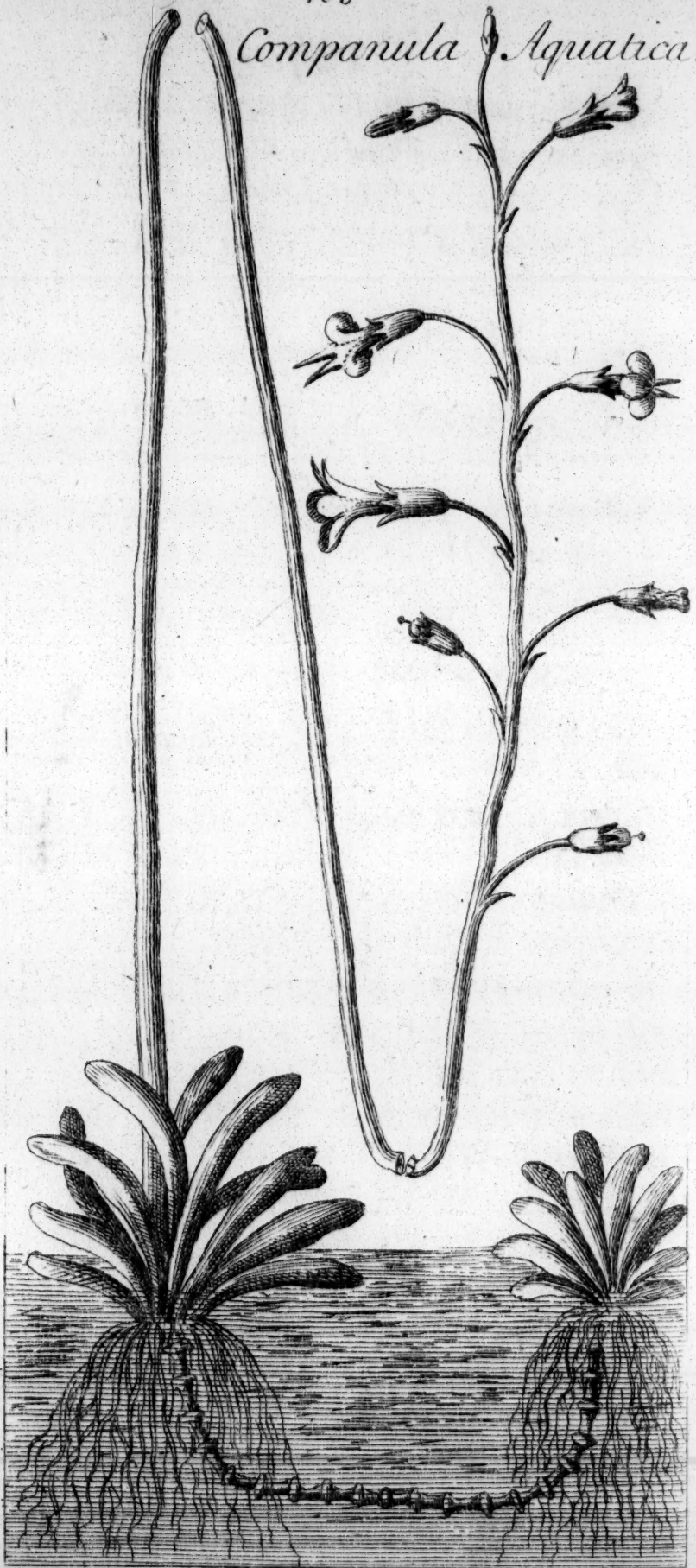
it lies flat upon the Ground with the other *Alchymilla*, but is not by far so large.

The next Plant I have taken pains to examine particularly is usually known by the name of *Gladiolus Lacustris*, which I have thought fit to call

### III. *Campanula Aquatica*. T A B. II.

**C***ampanula aquat. flore tubuloso, fructu oblongo, Nobis, Gladiolus Stagnalis Dortmanni, Clus. cura posth. p. 74. Leucoëum Palustre, flore subceruleo, C. B. Gladiolus Lacustris Clusii, five Leucoëum palustre, fl. subceruleo, Park. Herb. Brit. Tab. 66. Fig. 7. Water Bell-flower.*

It has a two fold Root, the one larger, hollow and jointed, running along the Mud, and now and then sending forth new Tufts of Leaves, by which the Species is propagated as in other running Plants; the other compos'd of small Fibrous white Tufts like the Fibrous Part of the Root of the *Leek*, by which it's so fix'd in the Mud, that whatever stormy Wind shall move the Lake, or however the Waters may be toss'd, it cannot be overturn'd or pull'd up. From these Joints do arise several short round thick juicy hollow Leaves, about two or three Inches long, ascending obliquely, and dispos'd in a Circle, amidst of which is plac'd a perpendicular, round, hollow, naked, Stalk, (its Cavity being

*Companula Aquatica.*



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being divided by a *septum intermedium* throughout its length,) to two, three, or four Foot high, according to the depth of the Water, above which it usually arises about half a Foot, having several thin set alternatively plac'd blewish, whitish, or wholly white, Flowers, upon short foot Stalks, *Monopetalous*, *tubulous* or narrow, like some of the Lip-flowers, divided into five *Segments* or two *Lips*, the one erect, consisting of two narrow pointed Portions, and the other dependent, with three round broader *Segments*, whereof the middle is the largest, as in the Violet-flowers, with five *Stamina* surrounding the *Pistillum* or *Stylus*; its *Calix* is oblong, having five narrow *Segments* for the *Perianthium*, and an oblong conical Fruit, largest where joining with the Flower, which when decay'd, does not fall off but sticks close to it till 'tis almost ripe. The Fruit consists of three or four *Loculamenta* or *Pouches*, each having a proper *Placenta*, all join'd to an *axis Medius*, containing small redish Seeds like the *Campanula pratensis minor*, which it resembles almost in every thing.

That this is a *Campanula*, appears. 1<sup>st</sup>, From its *Monopetalous Flower*, divided into five *Segments*, which though it be *oris inaequalibus*, yet that will not make it a distinct *Genus*, according to Mr. *Tournefort's* Maxime, *nec flos solus, neque fructus solus, sed flos & fructus simul, constituunt Genus*; so here, though

tho' this *monopetalous Flower* be divided into five unequal *Segments*, yet it is still a *Campanula*. Because 2<sup>dly</sup>, They agree together in the *flos non deciduus*, for the Flower decays as the Fruit encreases, but never falls off as in the *Campanula pratensis minor*, and most of the other *Campanula's*. 3<sup>dly</sup>, *Ovum non ovo similis*, than the Fruit of this resembles that of the other in Colour, *Perianthium*, *Pouches*, *Placenta*, *Seeds*, and the manner of the opening of the *Pouches* and pouring out of the *Seeds*. 4<sup>thly</sup>, In its being *Lactescent*. This is the only *Lactescent* water Plant that I remember, and in that its altogether like to that of the other *Campanula*. And 5<sup>thly</sup>, (Though it be less Essential) In the Colour of the Flowers, for they vary from a Blewish Whitish-blue to a pure white Colour, and have the same time of Flowring.

This Plant was first recommended to me for a more particular Examination, by that Learned and Curious Nobleman the Right Honourable my Lord Colvil, who for his Assiduity in Reading, Skilfulness in Musick, Knowledge in Botany, other Parts of the natural History, and most of the Liberal Sciences, and for his sedulous Application to such laudable Studies, as are futable to his Quality, may justly be propos'd as a virtuous Example worthy of Imitation.



*Dortmannus* (as related by *Clusius*) \* is the first who observ'd this Plant in the Ditches in *Holland*, and he justly observes that it grows among Water which has a pure Sand in the bottome, and that no other Plant is nourished beside it ; agreeable to which is what I have also observed, viz. That its native Soil is in Lakes or Lochs of clear fountain Water, and a fine Mud or Sand. The first time I saw it was several Years ago at the west End of *Loch-levin*, then belonging to the late celebrated Architect Sir *William Bruce* of *Kinross*, and now to Sir *Thomas Bruce* his Grandson. This *Loch* is of a great extent, being ten Miles round, abounds with innumerable Well-springs of pure fountain Water, has a Castle built upon an Island, where *Mary Queen of Scotland* was kept Prisoner by her rebellious Subjects ; and is famous for four Species of delicious *Trouts*, differing from each other in Spots, Colour and Bigness, which are no where to be had but there. It likewise grows in the *white Loch* belonging to *William Blair* of *Ardblair*, whose Water is so clear, that the bottome is to be seen from the Surface at a great distance ; it abounds with so many Well-springs, that though of a small compass, yet

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\* Plantum cui Gladioli Stagnalis nomen dabat, *Dortmannus* ille *Pharmacopola*, *Groningensis* crescere dicebat in Stagnorum fundus, puro sabulo, substernitur nullum alioque, plantam preter hanc alente. *Caroli Clus. Cura posteriores. c. 66. p. 74.*

- the Stream flowing from it, serves a Corn-mill throughout the Year; which neither a dry Summer, nor frosty Winter, hinders from going. It may be taken for granted, the Water is pure wherever this Plant grows. *Petiver. Herb. Brit. Raii Tab. 66. Fig. 7.*

#### IV. *Pyrola Vulgaris.*

**P***Pyrola vulg. Herb. Brit. Petiver. Tab. 62. Fig. 11. Turnef. Instit. 256. Tab. 132. common Winter Green.*

This ever green Plant from a small white fibrous Root sends forth five six or seven dark green shining stiff Leaves almost round in the fore Part, amidst of which arises one single straight naked round Stalk, five or six Inches high, at the upper part whereof are its Flowers alternatively plac'd on small Foot Stalks, *Pentapetaloid* or *Monopetalous*, deeply divided into five white round *Segments* bending upwards, with several *Stamina* surrounding the *Pistillum*, whose *Stylus* is not unfitly called the *Proboscis*; its Fruit is round marked with five *Longitudinal Sulci* or *Depressions*, and divided into so many *Loculamenta* or *Pouches*, and pouring out small Seeds when ripe.

V. *Pyrola Unicapularis*,

**P***Pyrola Unicapularis*, Nobis, *Alpines, flore, Europæa*, B. P. *Herb. Trientalis*, J. B. *Herb. Brit. Petiver. T. 62. Fig. 13. Winter green with Chickweed Flowers.*

This ever green Plant may rather be called *Anagallis* by the Shape of the Flower Fruit Figure, but not disposition of the Leaf; for the *Anagallis* has its Leaves by Pairs, arising from a slender creeping Stalk lying on the Ground, but the Leaves of this are as it were *Umbellatim Disposita*, as Mr. Ray says, upon the top of an upright Stalk.

It has small stiff white Fibrous running Roots, knotted or knobbed in several Places, from whence arises a slender straight Stalk, one or two Inches high, surrounded at the top with five 6 or 7 thick-set dark green pointed Leaves, each about an Inch long, some larger and broader, others less and more narrow, in the midst of which ascends a small Pedicle, supporting one single *monopetalous* white Flower; deeply divided into five, six or eight *Segments*, with a few *Stamina* but no *Proboscis*, to which succeeds a *spherical unicapular* Fruit, opening transversely when ripe, and pouring out small Seeds.

It Flowers in *April* and *May*, both these *Pyrola's* grow in the Moss of *Coucherage*, belonging to *John Blair* of *Glesclune* in the *Stor-*  
mond



mond, *Perthshire* ; but that which is called the *Vulgaris* is the more rare, and the other more frequent both there, and in several other mossy Places where I have seen them. I could never observe but one Flower to the *Pyrola Unicapularis*, though Mr. Ray says, it has 2 or 3.

*Pyrola vulg.* is said to be astringent and a good *Vulnerary*, but the Plant is so small and rare that it's seldom us'd. *Rivini* gives Figures of a good variety of this Plant, I have not seen the *Pyrola Mucronato folio* of Mr. Ray's ; I am very well pleas'd with the Figures you sent me of both.

Beside these I have likewise seen in our Highland Hills.

V. *Chamæmorus*, A low shrubby Plant growing flat on the Ground with Bramble Leaves, *pentapetalous* white Flowers, and an aggregate oval Fruit not unlike that of the *Morus*, from whence it is called *Chamæmorus*, though it may more properly be called *Chamærubus*. This Fruit (which is red when ripe) is sold in the Markets, and is commonly called *Brelins*.

VI. *Vitix Idea palustris Buxi foliis*, of this I have observ'd two distinct Species, the one with an oval red Berry, called by the Country People *Crawlins*, which is likewise gathered and sold in the Markets. The other with larger Leaves a spherical yellowish Berry, so full of Acini or Stones, that it's not eatable. Being ignorant that there was such a Species

I enquired of the Inhabitants if they knew of any such difference, they told me they did, and they called this other (in their Country Language) *Gashocks*.

VIII. *Filicula montana florida perelegans*, f. *Adiantum album floridum* Museum Petiver. 792. grows plentifully at the Craig of Barns near Dunkeld, This is a fine Plant, growing low, upon a small foot Stalk, its *Pinnulae* most curiously dissected, having elegant *Striae* variously dispos'd throughout the Leaf; some of them have that which is called the Flower, as in the *Osmunda Regalis* upon the top of the Leaf; others are in Clusters upon the *Pedicle* alone, without the Leaf. I have also seen it in other Places of the High-lands, growing in a rocky or stony Ground.

IX. The *Plantago aquat. min.* Herb. Brit. Petiver. Tab. 43. Fig. 8. Is a low Plant, not exceeding three or four Inches high, with long narrow spear pointed Leaves arising from the Root; the naked Stalk from the middle is branched towards the top, having several Flowers dispos'd upon foot Stalks, as it were in an *Umbel*, *Tripetalous* like the *Plantago aquat. maj.* with this variety, that its *Petala* are a third or fourth part bigger than the other, the cluster of naked Seeds spherical, and the Seeds striated, whereas the Fruit of the major is less, flat, and as it were triangular.

These

These water Plantains are near of kin to the *Ranunculi*, and this lesser Species, is most anomalous in regard of the proportion of its Parts ; for whereas the Flower and seed Vessel of other Plants are for the most part enlarged or diminished, according to the proportion of their other Parts, here the Plant itself is vastly diminished, and the Flower and Fruit very much enlarged ; for the *Plantag. aquat. maj.* will be sometimes as many Foot high as the other is Inches.

This low Plant grows for the most part in moorish and mossy Ground, and is frequently to be seen betwixt *Compar* of *Angus* and *Newtyle*, or towards the Moss of *Meigle*.

IX. *Ornithopodium* grows here also in great Plenty in dry sandy moorish Ground : It's a low Plant, has very small *folia pinnata* and *papylonaceous* Flowers, three for the most part in a Tuft ; at first view one would take them to be *Bipetalous*, for the two *Alæ* or Wings are most Conspicuous, of a pale Red with purplish Lines. But the *Vexillum* and *Carina* are scarce observable : To the Flowers succeed three or four bended and pointed Pods, exactly resembling the Toes of a Birds Foot, from which the Plant has its Name. The Root is Woody and Fibrous, but has no conspicuous Knots ; I am not certain whether it is annual or not, for it is to be seen all the Winter ; but perhaps this may be, small Plants which have arisen from the Seed in the



the *Autumn*. I suppose this Species may be the *minus* or lesser kind, for it is not *flore flavescente*, as *J. Boubinus* would have it.

I could have added several other Plants, upon which I have made particular Observations, but these may shew that notwithstanding all the diligent enquiry into the Knowledge and Structure of the Plants, by the famous Botanists of this Age here in *Britain*; such as *Dr. Morison*, *Mr. Ray*, *Mr. Bobart*, and their other Curious and Ingenious Correspondents, there still remain several things to be more fully considered in them. And this mov'd me some Years ago to compose a more exact description of the dispensatory Plants, whereof I herewith send you a Specimen.

### The Title is

**P**harmaco-Botanologia, or a Complete History of the Dispensatory Plants, shewing their Genera, Species, Characteristick and distinctive Notes, and describing their Virtues and Uses.

I. I treat of them Alphabetically to avoid the being confin'd to any particular Method.

II. When I meet with a plant of any considerable Genus, I join the rest of its Congeners to it, and shew wherein they agree and in what they differ. *v. g.* To the *Abies* I add *Pinus*, to *Abrotanum famina*, *Tanacetum* and

and *Balsamita mas.* To *Abrotanum mas.* *Absynthium*, *Artemesia*, &c. To *Alcea*; *Althæa*, *Malva*, &c.

III. At the first Plant of a Genus, I shew what is requisite for the constituting of it. v. g. At *Abies* and *Pinus* I shew what is meant by a *Coniferous Tree*, or a Tree with an *amentaceous Flower*, according to Mr. *Tournefort*; what by a *Corymbiferous* with a *naked Flower* at *Abrotanum*, &c. and wherein the *Corymbiferae* with a *large Flower*, differ from those with a *lesser*, as in the *Absynthium*, or with a *Radiate Flower*, as in *Chamamelum*.

IV. When I have thus join'd two or three of the same Genus together, I assign to each the synonymous Names, according to the different Authors, with *Book*, *Chapter*, *Genus*, *Class*, *Leaf*, *Page*, where they are treated of; so that they who would consult Books for a more full description of the Plants, may find them out by this Treatise, as it were by an Index.

V. Having thus established the general *Characteristicks*, I afterwards shew wherein the *Congeners* are distinguish'd from each other, and in what they agree. v. g. *Abrotanum femina* has only one Flower upon a Stalk, and is a low Plant with short thick set Leaves. The Flowers of *Tanacetum* grow in Tufts, it has a deep divided compound Leaf

*Balsamita* has a simple Leaf, and an odoriferous Smell of Mint, &c. And thus I proceed in their Botanical Description, where I take care not to omit the least material Circumstance that is to be observ'd about them.

In all these I have behav'd so impartially in relation to the different Methods in which the Plants have been reduc'd, by the several Authors, that I neither decry the one nor extol the other, beyond what it deserves ; but have endeavoured to reconcile them to each other, almost in every Plant, pointing out the Perfections of each Author so much as possible, and concealing their Failings, disanting upon the Figures and Descriptions of the Ancients as they deserve, and shewing in the general that there is no such discrepancy in the several Methods of Dr. Morison, Mr. Ray, Herman, Amandus, Volkhammer, Tournefort, Rivini, Boerhave, as People do imagine ; or they who are bigotted to each of these several Methods, would perswade us ; but that all these Great and Ingenious Men have done their utmost to illustrate that delightful Science. So that it matters not by which of them the Student is taught, for by any of them he may come to such a degree of knowledge of the Plants, as to distinguish them, by which of the Methods soever he has a mind ; and indeed, unless some such healing mean of reconciling the different Methods be fallen



fallen upon, such is the Luxiency in the Fancy of great and plodding Genus's; that in a short time there will be such a diversity of the *Methods* of disposing the Plants, as shall make it equally burthensome to the Memory to know the Plants by a *Method*, as it was formerly to learn them without it, by which so excellent an Institution of teaching the Plants by *Method*, may come to be perverted.

For the Virtues I have consulted the several *Pharmaceutical Treatises*, and considered what they have advanced concerning them, but have delivered nothing from them but what consists with my proper Experience to be true, without heaping up a vast *Farrago* or Catalogue of their Vires. I have given an Account of their Chymical *Analysis*, and other Experiments made upon them by the Royal Academy at *Paris*, from Mr. *Tournefort*, *Touury*, and other *French Writers*. And shewn what Parts of them, *viz.* Whether the Root, Herb, Fruit or Seed, &c. are most us'd in the Shops, and what are the most noted Compositions in which they enter.

Thus after having cultivated the Plants themselves in my own Garden for several Years, and dispos'd them into that same Method I now treat of, after having from Year to Year observ'd what is most remarkable in

each of them, and compar'd them (in the manner shewn) with each other, and after a long Experience of their Virtues, both in the Practice of *Physick* and *Pharmacy*, I have at length compos'd this Treatise, which I have endeavour'd to render so useful as possible, both to such as would learn the Botany and understand the *Materia Medica*. For as in the one there is no *Class*, *Genus*, *Tribe* or *Family*; but you will find some Species or other which you may use as an Example, whereby to direct you to the knowledge of the Congeners, though not *Pharmaceutical*; so in the other there is no Distemper in the Human Body, nor any Preparation almost made use of for the cure of such a Distemper; but you shall find one or another of these Plants requisite, either Simply or in Compositions. And that I may be the more capable to deliver what I have found from my own Practice to be true, I have not inserted any Plant into this Catalogue, but such as are either indigenous, or may easily, and with a small charge be cultivated in any Garden, leaving the description of the *Exoticks* to those who have opportunity to be more versant in them.

In order to render this History of the dispensatory Plants, the more complete, it were convenient to add their Figures, whereby I may express their Flower, Fruit, Seed-vessel, and

and Seed, from my own Observation ; but as the whole Treatise will be of a large extent, and as its seeing of the Light depends upon the Encouragement to be given for the publishing of it ; so if the Figures cannot be added because of the Charges, I have made a Reference to those in your *Herb. Brit.* for such of them as are indigenous Plants.

I hope I have now Sir, endeavoured to answer your Expectation in what you seem'd to require of me, and in so far as either my Time or Conveniency could admit of, but this does not hinder me from communicating whatever may hereafter fall in my way as worthy of your Observation, being ever ready to shew you how much I am,

*Worthy SIR,*

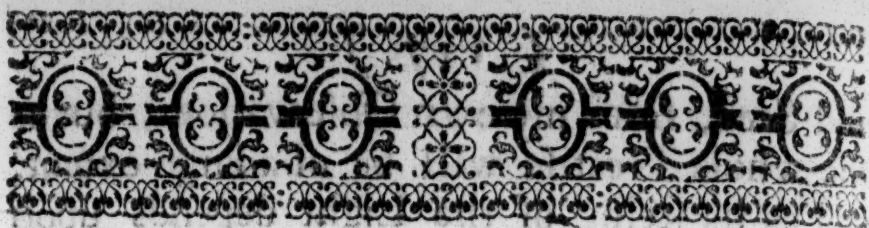
*Your most humble and*

*Obedient Servant*

Cowpar of Angus  
August the 1<sup>st</sup> 1713.

Patrick Blair.





A

## LETTER

*To Dr. James Douglass, Fellow of the Royal Society, containing some Observations in the Bones.*

Honoured and Learned SIR,

OUR Skilfulness in Anatomy and  
Y Dexterity in Dissecting, your diligent search and inquiry into the Knowledge of the Bones, and your assiduous prying into the Structure of all other Animals, in order to compare them with those of the Human Body, are prevailing Motives with me, to present you with a few Observations, thereby to shew my Gratitude, for the Acquaintance and good Correspondence has been entertain'd betwixt us for some Years past.

Know then that about nine Years ago, a Boy of eleven Years of Age fell from an high Tree (which he had clim'd for young Crows or Rooks) by which he receiv'd a complicated Fracture in the Thigh. The *Osfemoris* having

ving made a large Wound and stuck out; the Surgeon who was first called to it push'd it in, and dress'd up the Fracture as is usual in such Cases. I was consulted the Day following, and not knowing the Bone had stuck so far out, as I afterwards understood it did, made it my Business to prevent so great a Suppuration, as I must needs expect from such a Contusion, to hinder the Matter from forming *Sinus's* betwixt the *Interstices* of the *Muscles*, and by constrictive Bandages to preserve the Thigh in its natural Streightness and Length. About two Months after, all the uneasy Symptoms were remov'd, and the Thigh-bone began to Knit (or unite) as I supposed, in so much that he first betook himself to the Crutches, and then to the leaning Staff; but observing the Orifice still to keep open, and a new Suppuration to threaten, I was willing to prevent it by a new Incision. It was sometime before the Parents and Patient would permit; till seeing Necessity they yielded to it; when I (endeavouring to find out the *Sinus* from whence the Matter flow'd) observ'd part of the Thigh-bone still discovered and movable, and at last with much ado pull'd out betwixt two and three Inches of its length, (for it had been twice transversly broke when he fell) This intermediate Bone betwixt the Fractures was likewise longitudinally or obliquely broke, so that I pull'd it out in two Pieces,

ces, with the Cavity for the Marrow in the middle ; after which I took care to have the Wound incarnated from the Bottom, and got it happily cicatris'd, for the two Extremities of the Femur above and below this fractured Bone, had been covered sometime before, so that nothing was now wanting but to wait till the *Offified Callus* betwixt the two Bones, had acquired a convenient Solidity, and I took care all the while to preserve the Thigh in its natural straightness and length. The Boy is now at his full Stature, and it is scarce to be observ'd that he had such a Misfortune.

Much about that time I had the curiosity to go some Miles and see a Boy about nine Years of Age, who having some Months before dislocated his Shoulder, and no Surgeon being called, there happened a *Tumor* upon it, which suppurated and broke of it self ; after which the *Epiphysis* of the *Os Humeri* jeated out at the *Orifice*, and by degrees all the rest of it followed, the Bone making its way by dividing the muscular part of the Arm all along down towards the *Cubitus*, and no sooner did the Bone quit its Situation, than a strong *Callus* succeeded ; so that when I saw it, it had wore down towards the middle of the Arm, where one half of the *Humerus*, stuck out, and the *Callus* betwixt that and the Shoulder was so strong, that he could take up any thing of an ordinary



nary Weight with that as well as with the other Arm ; and I was credibly inform'd that the whole Bone was thrust out, after this manner, down to the *Cubitus*, where it was taken away ; and all this while the Boy did not complain of any Uneasiness ; unless by the unwary touching it at the one end, he was affected at the other.

About twenty five Years ago I was employ'd by the Parents of a Girl of about nine Years of Age, who having some time before got her *Fibula* fractured in two Places by a fall, upon which no care being taken to reduce it, a Suppuration followed, and sinous Ulcers throughout the Leg, so that (the whole of it being as it were *Cavous*,) the *Fibula* remov'd from its natural Scituation, and lay upon the fore part of the *Tibia* ; the upper part of it penetrated the Skin, and stuck out about an Inch ; which (finding it no more useful to her) I pull'd out, and having scrap'd of a good deal of *Caries* from the *Tibia*. I at length got it to incarnate and cicatrise ; being now a Woman, the Leg which had that accident, is as it were one whole Bone, but is no hindrance to her in walking.

That the Blood *sub ipsa forma sanguinis*, nourishes the Bones as well as the softer Parts of the Body, is what can be easily proved, by those two familiar Experiments. *1st*, When a Member is amputated, if we shall observe the transverse cut off Extremi-

ties of the *Fibers* of the Bone, we may see the Blood it self lodg'd in the *Interstices* betwixt them throughout its inner Substance. 2dly, We may suppose that the *Orifices* for Vessels, which are observable at the *Epiphyfes*, and sometimes in the middle of the Bones, to be capable to convey more Blood to them than is requisite for the Marrow alone, but that it is dispers'd throughout the whole Bone, and that the nutritious Particles are separated from it, while it remains there, and are convey'd by certain *Tubuli* to be adapted to its Substance, either for Nutrition or Support in the State it is in, (after the Body is come to a full Stature) or for its Accretion, until the Body is arriv'd at a convenient highth, or they have acquir'd a suitable bigness. And that this is the manner of the Nutrition of the Bones plainly appears from the foregoing Observations, \* where we find, that upon the disruption of these *osseous Fibers* and *Tubuli*, which convey this *succus Osseus*; it flows out *qua data porta*; and not being confin'd to such narrow Bounds, it there (as if it were still within its proper Bounds) first forms a gelatenous Substance, which afterwards hardens to the Solidity of a Bone, configurated according to the empty space where into it has distill'd, or as the circumjacent Parts will permit;

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\* Number 16. 17, 19. p. 48. 49. 51.

so that though these Examples I have afforded was in three young Persons, yet you see the same thing has happened to those of riper Years, and indeed for a *Callus* to supply the Place of the loss of Substance in a Bone, is no more than what happens frequently, as daily Experience in trepanning of the Scull teaches us, besides several other Examples. But I look upon this second Observation of a *Callus* supplying the Place of a whole unbroken Bone as a little more singular; and upon all the Observations I could make, that part of the Bone which stuck without the Arm was as whole and smooth in the Surface as could be expected, whether the *Periosteum* which it had deserted, could supply any thing in this Case, I leave to your serious enquiry, who have pry'd so far, both into the natural and preternatural State of the Bones, that you may be justly said to have outdone all who wrote before you upon that Subject, and therefore I hope you'll excuse the Freedom I have taken in communicating these to you: I shall only add, that there need be no such Pother in the waiting for the Exfoliation of Bones, unless they have been a good time expos'd to the Air, and even then it's fit to preserve them from it, that the incarnating may naturally begin upon them, rather than to expose them the more, or to scrape them, in order to exfoliate; for the external Surface of every



Bone is so Cruſtaceous, that the Air does not ſo ſoon affect it, and the way to corrupt the Bone the more is to abraſe this cruſt from it, which is rather to do harm than good: This I have known by frequent Experience and many Examples, ſome Years before *Belloſt's* Book came abroad. I add no more, but that I am with all due Reſpect,

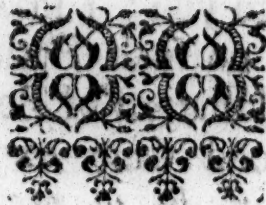
*Honoured SIR,*

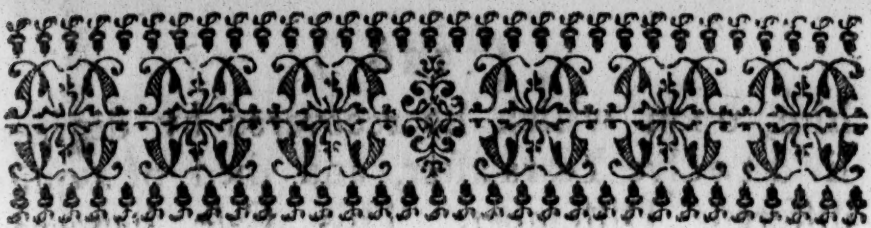
*Your moſt humble and*

*Obedient Servant*

London November  
the 1<sup>ſt</sup> 1717.

Patrick Blair.





A

## Third LETTER

*To Dr. Mead, containing a few  
Observations in Hydropical Cases.*

Honoured and Learned SIR,

**Y**OU have been pleased so favourably to accept of my two former Letters, that I have presumed to address you a third Time, and to acquaint you with the History of a few Hydropical Cases, which either consist with my Knowledge to be Fact, or wherein I was concern'd as Physician and Surgeon; hoping you'll accept of the same as a Testimony of my just Regard to one of your great Experience, Fame and Reputation.

I. One *Ralph Valians* a Slater or Tiler of Houses in *Perth*, having laboured so long of an Hydropsy, that his Life was despair'd of, neither would the Physicians nor Surgeons (being call'd too late) meddle with him; became so resolute, as to lie down in his Bed deliberately to pierce his Belly with a Penknife, and to let out such an abundance of Water at once, that all the Bed was wet round him,

him, upon which he recovered by degrees, liv'd twelve Years after, and died of a quite different Distemper. This Case happened about thirty Years ago, and is so far Fact, that it can be attested by several living in *Perth* at this time.

II. A Woman of thirty two Years, lately married, finding she was not with Child, began to suspect she had an *Hydropsy*, and having consulted me, I was of the same thought, for her Belly was very hard and swell'd, all her other Parts were emaciated; she had a *Pulsus creber & debilis*, *Menstruorum obstructio*, but no *Urinæ suppressio*, nor any considerable Thirst, though both frequently happen in such Cases. I advis'd her to undergo the *Paracenthesis* immediately, but being fearful of the Operation, she desired of me to take any other Method of Cure I pleas'd, except that. I prescrib'd all the internal Medicines requisite, but in vain; and she at last consented to undergo the Operation. I made use of an *Abcess Lancet*, and then introduc'd a *Catheter*, such as is us'd in the *Urinæ Suppressio*, and Gravel in Women, by which I extracted three *English* Quarts, or *Scotish* Chopins, and pull'd out the *Canula*, without any farther Inconveniency than that she was Faintish, weakened, and confin'd to her Bed. About three Weeks after the swelling augmenting, and the Waters increasing as formerly, I extracted  
seven



seven Quarts ; being still unwilling to extract too much at once for fear of bad super-venient Symptoms, and she was confin'd to her Bed as before ; but her Belly swelling again, and she being willing to undergo the utmost, call'd me a third time, and earnestly desired me not to stop so soon as formerly, but to extract what possibly would flow out. I yielded to her desire, and did not give over so long as I could obtain any Water at all ; I measured twelve Quarts, beside a good deal that was spilt ; for I made the *Orifice* pretty large.

Her Symptoms before and after the Operation are worthy of Observation ; for whereas before it, she could go about her ordinary Affairs ; upon the performing of it she was confin'd to her Bed, and had the very same Symptoms as if she had brought forth a Child ; for she became Weak, had a few *Hysterick Paroxismes*, and as it were the *dolores post partum* by Intervals, with frequent sweating, which refresh'd and strengthened her so, that the more she sweated the more she was relieved from any Uneasiness, though at other times when she was in Health nothing could provoke her to Sweat. The Weakness continued longer (after this third Operation) than after the other two, and I treated her all the while, both as to Meat, Drink, Medicines, and in very thing else, as if she had been lately delivered of a Child, to which nothing could

could have a greater resemblance. Her Belly was emptied all at once as at the *Partus*, and the Evacuation of so much Water may not be unfitly compar'd to the *Lochia* and *Secundina*. The *Lymph* I extracted was of a balsamick viscous Taste not fully so saltish as Urine, which otherwise it much resembled in Colour and Consistence. I evaporated that which I extracted the last time over a gentle Fire in *Balneo arena*, and had eight Pounds of a thick sollid Gelly out of about nine Quarts of the Liqueur, like to the *Gelatina Cornu Cervi*. If I had perform'd the Operation a fourth time, I design'd to have distilled it; but she finding all to no purpose would not suffer it any more, nor did I much perswade her to it, finding her Blood to be so degenerated, that it was now no more than a Mass of *Serum*, so that it was needless to create Uneasiness both to her and my self, when there was no hope of success; however, my Endeavours had this good Effect, that she lived fifteen Months after the last Operation, and died as it were drowned or over-whelm'd in Water; but had not these Means been used, she would not probably have lived two Months after the time I was first called to her.

III. A labouring Man of about twenty Years of Age, was seiz'd with an *Anasarca*, which began at his Legs, then ascended to his Thighs, both which were vastly *Ædematous*;

*matous* ; and at length the Waters ascended to the *Scrotum*, which was so much extended as to contain two Quarts. Being call'd to him, without any delay I perforated the *Scrotum* with an *abscess Launcet*, and introduc'd the *Canula* of a Woman's *Catheter*, as in the former Case ; but being still afraid of any bad supervenient Symptom, I only extracted near to the half at first Perforation. The next Day I essay'd to extract the remainder by the same Orifice, but missing of that, I perforated it another Part, and had the Pleasure to observe both the Thighs become somewhat flaccid upon this second Evacuation. About three or four Days after, I perceived a Mortification below the *Penis*, but at some distance from these *Perforations*, upon which I dispos'd it by *Digestives*, &c. to fall off, after which I had a great Suppuration, and pull'd out a good Quantity of loose corrupted Membranes, which I suppos'd to have been either the *Musculus Cremaster*, or a proper *Cystus* in which the Waters had been contain'd : Whatever was in it, upon the removal of this corrupted Substance, the Ulcer incarnated and cicatris'd, the *Scrotum* was contracted, himself had *signa sanitatis*, and for what I know he is still alive.

IV. I knew a Gentleman of sixty Years of Age, in whom the *Lymph* took a quite different Course ; for he was seiz'd at first with an *Hydrocele*, then an *Anasarca* in the Thighs

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and



and Legs, and at last the Waters burst forth at one of the Ancles, by which there was such an Evacuation, that all the other Symptoms were removed; and though the Ulcer was never cured, yet he had two Years respite of Life; nor did he die of that Distemper.

By the foregoing it appears, which is the better way of treating the Hydrophy. In the second Observation, the Patient far contrary to my desire, would not yield to the Performance of the Operation at the first, but would needs have other means essay'd; and although I treated her both in Diet, Medicines, and in every respect suitable to her Distemper, too long to be here inserted, yet nothing succeeded, but the Distemper became the more inveterated, and much time was lost; whereas had she yielded to what I propos'd, her Blood not being then so much vitiated, I have good reason to believe it might have far'd much better with her. In the third Observation, I proceeded to the Operation without any delay, and having extracted all the Water I possibly could, and fortunately got out the *Cystis* in which they had been contain'd, then I betook my self to the use of Internals, such as *Deobstruents* and *Hydropicks*, potent Evacuations by Purgatives, interlarded Mercurial Doses, and at last *Stomachicks*, *Aromaticks* and *Incisers*, or such Medicines as might attenuate the gross Humors  
yet

yet remaining within the Body, and were capable to strengthen and restore the *Tone* to the muscular *Fibers*, hitherto too much relax'd, by which I had the wish'd for Success in the Cure of my Patient ; and that notwithstanding of the great Inconveniencies of Poverty and bad Diet, for he had not wherewith to subsist himself.

Which leads me into a further Consideration of the bad Success that usually attends the Operation of the *Paracenthesis*. It's here to be considered, that when upon any extraordinary event, the *Lymph* is extravasated from the *Lymphaticks*, and depositated into any Cavity, or lodg'd in the *interstices* of the *Muscles* ; it's of so balsamick a Texture, and so void of acrimonious saltish and pungent Particles, (which all the other Fluids are for the most part endow'd with, after they have any time remain'd, *extra aream circulationis*) that it seldom creates the Idea of cruciating or tormenting Pain, which of all others is most insufferable: So that Patients having no other Uneasiness than that of a dull Sensation, because of the Tension of the *Fibers* of the circumjacent Muscles and Skin, chuse rather to bear with that, than to suffer the cutting of their Flesh as they call it, in order to remove the Cause of the Distemper. Hence it is that so long as they have any Hopes of getting it carried off by internal Medicines, Purgatives, &c. they never think of proceeding any fur-

ther towards their Cure. Whereas would they, how soon soever they are convinc'd both of themselves, and by the report of Physicians and Surgeons, that they are actually Hydropick, and that there are already Waters contain'd in *Duplicatura Peritonæi*, (as an Example in the *Ascites vera*) Would they I say give way to the performing of the *Paracentesis* at first, I should not in the least doubt of Success in the Cure; for then perhaps the two *Membranes* of the *Peritonæum* were but lately separated, they have not yet acquir'd that thickness and stiffness (which when the Disease is far advanc'd they usually have) but that the Waters being remov'd they may again collapse and be united together. The *Fibers* of the *Muscles* of the *Abdomen* are not yet so distended and separated from each other, as to become weak, and lose their Tone or Elasticity so much, as not to be able to contract themselves; but have yet strength to press so far upon the *Peritonæum*, as to leave no room for receiving and containing of any more serous Particles which may remain within its Duplication. Add to these, that the *Texture* of the Blood is not yet become so serous as to give way to the separation of so much *Lymph* from it, as may augment the proportion of the Waters, and render the Disease so inveterate, as it comes to be after. In this Case, if the *Paracentesis* be so early perform'd, and a suitable *Regimen* both of Diet, Exercise, and Medicines do



do follow, I am fully convinc'd that Operation may be perform'd to a very great Advantage; and do heartily recommend it to all those who shall have the Misfortune to be attack'd with this Distemper to think of this Operation in time, lest they be oblig'd to do it when it will be less convenient and more unsuccessful; for when the Blood is nothing but a Mass of Serum, when the two *Membranes* of the *Peritoneum* have become so thick and stiff as not to yield to the Pressure of the *Muscles* of the *Abdomen*, when the *Muscles* themselves are so distended, and rendered so thin, and when their *Fibers* are so far separated from each other (*Ecarté* as the *French* call it) that they have lost their *Tone*, and have no force to act or contract themselves so well as if they had been more compactly united. Then this Operation cannot be supposed to be attended with the wish'd for Success; and here I must take notice, that the Weakness, Fainting, and other bad Symptoms, which are expected upon the extracting of too much of the Waters at once, can only proceed from the too sudden Relaxation of the *Fibers* of the *Muscles* of the *Abdomen*; for whereas formerly, (tho' much lengthned,) yet they were still kept distended by the subjacent Water; now the Water being remov'd, the *Muscular Fibers* are so far relax'd, that they cannot exert themselves, nor Counteract with their Antagonist *Muscles* of the *Thorax* at the Respiration,

so

so that the Air not being suck'd in, nor expell'd out of the *Larynx* with that force as formerly, the Patient has a Faintness and difficulty of breathing, until these muscular *Fibers* have as it were recovered themselves, can act in concert with their *Congeners*, and reciprocally with their *Antagonists*; nor can I see any greater danger to be feared from extracting the Waters at once, unless the Blood be already in such a disorder as it cannot supply a Proportional Quantity of Spirits, whereby to support the *œconomia animalis*, or that there be such a Mass of extraneous Substance, as in Observation I. p. 33. kept fluctuating in the Water, which happened when the *Omentum* and not the *peritonæum* was much concern'd; and in either of these Cases it is dangerous to perform the Operation at all; but as its rare that they happen, so there needs be no great fear of extracting a good Quantity of Water upon that Account.

The next Query is, whether the use of the *Trois quart*, or of a *Launcet* with a *Canule*, be preferable. If one is not well assur'd, what may be the Humor contain'd in a *Tumor*, as in Observation II. p. 34. when the *Cystus* extended no farther than the *Regio Hepatis*, then to enquire what sort of Humor may be contain'd in such a *Tumor*, the use of the *Trois quart* may be necessary; but if one be well assur'd it is only *Lymph* to be extracted, the Operation may be performed with  
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the *Launcet* to as good an Advantage as with the other. For first, The Pain must be greater when you are to cut and divide the *Fibers* by a three cornered blunt Instrument, than when you do it by a flat keen one. 2<sup>dly</sup>, The *Canule* introduc'd by the *Trois quart* is so confin'd, that should the Humor be so thick or viscous, as not to flow out by it; or should there be a *Coagulum* fluctuating among the Water (which I have seen at the opening of *Hydropick Bodies*) opposite to the Extremity of the *Canula*, then they miss of the Design, and must use the *Launcet* at last; whereas if you penetrate with the *Launcet*, and then introduce the *Canula* of the *Catheter*, you are capable by moving its Extremity to and fro, to remove what ever Obstacle may be in the way, and extract what Quantity of the Water you have a mind. 3<sup>dly</sup>, If it is not necessary to extract a small Quantity of the Water at once, but that they are to be evacuated so long, as the Strength of the Patient will permit. There is no necessity for the *Trois quart*, whose *Canule* is usually so small, that the Operation comes to be tedious and wearisome both to Surgeon and Patient; whereas as it can be done with less Time and greater Ease by the *Launcet*.

Learned Sir, it's a great Pleasure and Satisfaction to me that you have been pleas'd to peruse these, and so far to approve of them, as to desire they may be published. If they shall



( 136 )

shall become any ways serviceable to those who peruse them I shall be glad, for every private Person, especially those of our Profession, ought to do their utmost for the Good and Welfare of the Publick. I add no more, but my hearty Respects, and that I am,

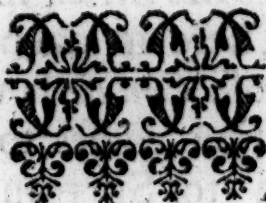
*Honoured SIR,*

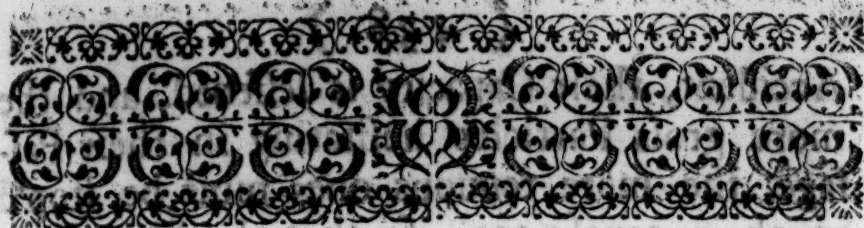
*Your most humble and*

*Obedient Servant*

London November  
the 8th 1717.

Patrick Blair.





A

## LETTER

To Mr. Alexander Geeky Surgeon, containing some Observations upon Glandulous Tumors.

SIR,

THE intimate Acquaintance and Correspondence which has been betwixt us for some Years past, and your long Experience and successful Practise in Surgery, have made me lay hold on this opportunity of testifying my hearty Respects to you, and to present you with a few Thoughts concerning the *glandulous Tumors* with which you are not a little acquainted.

The *Glands* or these Vessels which are destined for Secretion of the several Humors in the Body, are so minute, and the *Fluids* separated by them must be so tenuous, that it's next to a Miracle they are not more frequently obstructed or stop'd in their Progress. For when the Pores are constricted by external Cold, or some such

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Accident, their Capacity is lessened, and the more gross Particles hesitating in their Passage, the more tenuous ones must be stop'd in their course too ; so that the *Tunicle* in the *Glands* and their excretory *Ducts* are distended by degrees, and their *Moles* or *Bulk* is augmented ; and if it chance that some of the more subtile Particles are extricated, (which during their abode in the obstructed *Gland* had become *Acrimonious*) these being now of an *heterogenous Texture* from the other Particles in the Blood, cannot continue in circulating with it, but are deposited in the first *Gland* they come at, where they generate new Obstructions, and dispose the Humors lodg'd there, to be of the same Texture with themselves ; by which not only the adjacent *Glands*, but even those at a greater distance are in a short time affected after the same manner. If most of the serous Particles make their way through these obstructed *Glands*, and the grosser ones only remain, then they frame that which is called a *scirrhus Tumor* ; but if both remain together, and the more subtile ones become *Acrimonious*, (as it usually happens to the Humors in the several Parts of the Body, when they are obstructed and their Circulation is stop'd) then they attenuate and divide these grosser Particles and dispose them to Suppuration, by which the Humors change their *Texture* and frame that which is called laudable *Pus*.



I shall not here distinguish the *Glands*, as the Anatomists do in their natural State, *viz.* into *conglobate* and *conglomerate* Ones. But in their preternatural State, as the famous Dr. Sydenham does the small Pox, into *discreta* and *confluentes*, I call these *discreta* which are exile, moveable, and loose at the Base, superficially lodg'd within the Skin, either behind the Ears under the lower Jaw, in the Armpit, or in the Groin; in all which Places they are called Kernals by those in our Country, and are most observable in sickly tender Children; they are likewise vagrant or observable in most of the other Parts of the Body; I call those *Glands Confluentes* which are situated together in a cluster, whether behind the Ears called the *Parotides*, or the *Maxillares Superiores* and *Inferiores*. These are liable to this inconveniency, that if one be affected the rest (*per contactum*, or because of the vicinity of their Situation) are affected also.

There is a third sort of *glandulous Tumors*, which because of its Situation has the Name of *Parotis* appropriated to it. This *Tumor* is critical, and the Consequence of malignant infectious and epidemical Fevers. A fourth Species are those small minute *Glands* situated round the Eyes; in the cure of which you have had great Experience, and are become more particularly Versant. Of all these in order.

The first of these *Glands*, viz. the *Discreta*, sometimes swell to the bigness of a rough Almond, are moveable, and without Pain, and are chiefly to be observ'd in Children, which increase and decrease according to their Weakness and Strength. If the Inflammation of any of these tumified *Glands* is so far advanc'd that the Suppuration is unavoidable, then it ought to be extirpated without delay, by making a crucial or longitudinal Incision upon it, and by extracting it as is done to the Musket-balls in Gun-shot Wounds. This would prevent innumerable Mischiefs which are the Consequence of this Suppuration in these glandulous *Tumors*. For these vitiated Humors are again receiv'd into the Blood, deposited in the several Parts of the Body as is observed, and are the cause of these scrophulous *Tumors* which affect chiefly the glandulous Parts; and woful Experience teaches what a miserable Condition the Patients are in, when the *Glands* in the Joints are affected; by which the Disease becomes incurable, and they are undone.

But if it so happen that upon their being inflamed, they are fix'd at the Base, and have acquir'd a considerable bigness, and when because of the situation of the Part, or that a considerable *Hæmorrhage* is expected, (for there is a Blood-vessel at the bottom of each of these tumified *Glands* whereby they are nourished,  
and

and preternaturally enlarg'd according to their bigness) it will not be so advisable to extract it. A large and deep Incision is to be made without delay according to the bigness of the *Tumor* before the Matter has got any time to be further attenuated, digested, or to mix in such a Quantity with the Blood as to affect the neighbouring Parts, by which the Matter not yet suppurated may be digested by suitable Medicines, and the bad Effects of the noxious Humors deposited upon the neighbouring Parts may be prevented. In this Case special Care is to be taken to keep open the Wound, until it incarnate at the bottom, in order to stop the progress of *Sinus's* and *Fistula's*, the usual Consequences of them when badly cur'd. The same Method is to be observ'd in the *Glandula Confluentes*; for when one of them is affected, most of the others Simpathise, each of which have distinct Tunics and separated Cavities, so that the way to treat them (if they are so fix'd at the Base as they cannot be totally extirpated, which frequently happens) is to make a large Incision from the one end of this *Congeries* to the other, that the Humor from every proper Cavity may empty it self into this common Sink, so that by keeping the Wound open so long as there is any Matter within the *Tumor* to be digested and flow out, or there are any of the several Tun-



Tunicles of the *Glands* to fall off, the Matter may be prevented from mixing with the Blood, and the Wound may incarnate from the bottom, and be happily Cicatrised.

I remember that for the three following Winters after 1694. there was an epidemical malignant Fever among the Soldiers in *Flanders*, which at first was very Violent; the third Day the *Parotis* or *Tumor* behind the Ears began to appear; we observ'd their increase the Fourth and Fifth: If they were like to become very large upon the Sixth or Seventh we opened them (without waiting for Suppuration) to prevent the Patients being suffocated before the Eighth or Ninth. I have been obliged to open them in one, and sometimes in both Sides; by making a large and deep Incision, when nothing would flow out but Blood or a *Sanies*. Sometimes the discharge of the Humors upon these Parts was so great, that nothing could save the Patient; but for the most part this Method succeeded very well; if there were any *Tumors* like to be but inconsiderable we allow'd them to Suppurate before they were opened, which for the most part was upon the ninth or tenth Day; so that this *Parotis* was a true *Crisis* to that Fever.

I saw this Fever once with its critical *Parotis* in *Scotland*, where he who treated it, having no Experience of that Distemper, did  
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not take care to open it timoufly, upon which the Humors were discharged into the Cavity of both the Ears, (for it was a double *Parotitis*) and upon which the Boy had the misfortune to lose both his Hearing and his Speech, (for he was then only five Years of Age) because the Matter had destroy'd the *Timpanum*, and the very *Officles* came out. I was afterwards called to him, but too late ; I apply'd a *Caustick* upon each *Tumor*, for all the Matter being evacuated, the Sides of the Cavity had collaps'd ; which oblig'd me to make large Incisions to prevent their being Fistulous, for the internal Surface of the Cavities had become *Callous*. I only mention this to shew the great Inconveniencies that may follow upon too long delay in opening a suppurated *Tumor*, but few upon the doing of it too soon, even though it be before Suppuration.

I need not mention to you these minute *Glands* round the Eyes ; you have been so Successful in the removing of Obstructions in them, and in the Cure of most of the Diseases which affect that delicate *Organ*, especially those which proceed from scrophulous Causes, that you have very justly acquired great Fame and Reputation upon that Account.

I have had frequent Experience and Success in this Practice upon other Parts of  
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the Body, for I have several times extirpated *Glands* behind the Ears, by which the Distemper has proceeded no further: I have opened such of them as were fix'd at the Base before the Suppuration, and got out the glandulous and grumous Substance by Digestion, by which I have more than once stop'd the Progress of these scrophulous *Tumors*, and when several glandulous *Tumors* have acquir'd a considerable Bigness in different Places of the Body at once, I have made a large Incision upon one or two of them, and taken care to cure them, upon which all the others have decay'd and dwindled away, even after the Patients had laboured many Years in Distempers of that nature, for they not being opened in due time, had been suffered to open of themselves, and had all along emitted such vitiated Particles to the Blood as were the *Fomes* to *Tumors* of that Nature throughout the other Parts of the Body. But if upon the curing of any of these *Tumors* the Humor being deprived of its ordinary Sink or Shore was diverted of its usual Course, and was deposited upon other glandulous Parts of the Body; if (I say) this newly generated *Tumor* was not extirpated before it was fix'd at the Base, then the Humors like an impetuous Torrent flow'd into it, and tho' the former part was cured, a new Mischief has arisen



sen from this Part even to the danger or loss of the Patients Life.

I am sensible the Tenderneſs of the Parents (if a Child is affected with theſe ſcrophulous Tumors) or the Timerouſneſs of the Patient, if of riper Years, together with the Clamour and Noiſe againſt any who would endeavour to do that which ſeems to be ſo much out of the ordinary courſe of Praſtiſe, is a great hindrance in the ſucceſſful Performance of ſuch Cures as otherwiſe might be Satisfactory to all concern'd; but if People would give ear to ſuch wholeſome Advices as are given by knowing Perſons upon theſe Occaſions, either in Hydropical or Scrophulous Caſes, both Phyſician, Surgeon and Patient, would have great Satisfaction by it. That's an *Aureum Carmen*.

*Principiis obſta, ſero Medicina paratur,  
Quum mala per longas invaluere moras.*

And again.

*Sed immedicabile vulnus,  
Enſe recidendum, ne pars ſincera trabatur.*

I have ſo great a Regard to all Surgeons, and ſo much Charity for thoſe who Exerciſe that Art, which I have ſucceſſfully praſtis'd for ſeveral Years paſt, that I am convinc'd the general Clamour rais'd againſt them of prolonging the Cure for the ſake of a Reward,

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is false. I am sure none but ignorant Persons and Knaves will do so: There is nothing but the want of Knowledge can hinder a Surgeon from foreseeing bad supervenient Symptoms; for if he performs the first Intension aright, by making sutable Incisions, extracting of extraneous Substances, applying of Contentive, Constrictive or Expulsive Bandages, and Compresses to be continued or altered at Discretion; if he shall foresee symptomatical Fevers, and endeavour to render them more moderate, and take care to curb Inflammations, and prevent Sinous Ulcers, &c. and to lay them open when they happen and are discovered; then Nature it self will do the Work. And as to the Reward, certainly he who performs the Cure the soonest, and with the least Pain to the Patient, deserves the greatest.

I could have added a great many more Observations, not only Chirurgical, but in all those other Sciences treated of in this Miscellany, but as these will shew how willing I am to contribute for the Good and Welfare of Mankind, so I hope you'll accept of them as a Testimony of my Gratitude to you. Being,

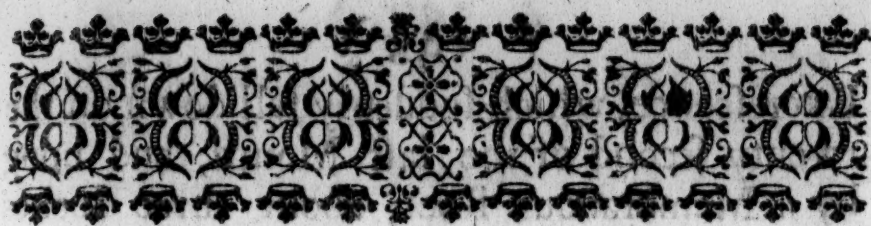
*Worthy SIR,*

*Your most humble and*

*Obliged Servant*

London November  
the 8th 1717.

Patrick Blair.



A  
L E T T E R

To Dr. Patrick Blair Fellow of  
the Royal Society.

S I R,

Y OUR great Industry in finding out uncommon Cases, and making judicious Remarks upon them, for the Improvement of Physick and Surgery, entitles you to the Case I here send you ; I have shew'd it to some eminent Physicians, who think it deserves a Place in the Collection you are publishing ; it relates to a Woman, who has been for eighteen Months very much troubled and weakned once a Month by a *Fluxus Mensium immodicus*, which generally continued for a Fortnight each time, and then came away as torn Pieces of a *Placenta* : But this last Month they flow'd moderately for five Days, and very waterish ; during which time she was sensible of a Weight bearing downwards, with violent Pains more acute than what she suffered in her former Labours, and also a *Suppressio Urinae*. This I suppose was occasioned by a large fleshy



Excreſcence, which ſuddenly fell down on the twenty ſecond of the laſt Month, and hung by a Membranous Root, about three Inches long, and half an Inch in Diameter, from the forepart of the *Vagina*, ſo that there immediately followed a great Quantity of Blood, which had been ſhut up by this Excreſcence. She immediately had recourſe to a Midwife, who tho' never acquainted with ſuch a Caſe, was reſolv'd to pull it away by force, which ſhe oftner than once did attempt ; until I at laſt being called, diſcharged her of that Office. Finding this *Excreſcentia Fungosa*, (as I may call it) entirely expoſ'd to the Air, and alſo beginning to Putrify, and to ſend a very diſagreeable Smell ; the Paſſage to the *Uterus* entirely ſhut up by the Membranous Root, except by a very ſmall Orifice towards the *Oc Coccigis* ; I propoſed to ſtop the further Nouriſhment of the ſoſaid Excreſcence by a *Ligature*, but delay'd it, until I had the Opinion of two Phyſicians, well ſkill'd in Caſes relating to the Female Sex. Having apply'd the *Ligature* as nigh the *Baſis* as poſſible, and defended the Patients Thighs by Plaſters, from the putrifying Maſs that then lay upon them, I ſoon perceived it gradually to decreaſe of its Bigneſs, and alſo to dry, and to looſe its fetid Smell ; and the eighth Day after it had been expoſ'd, I reliev'd her of it, without the loſs of a drop of Blood : But the ſecond Day after I had apply'd the *Ligature*, pitying the poor Woman,

Woman, rack'd with violent Pains, and very Weak, propos'd then to extirpate the Excre-  
 scence, not fearing an *Hæmorrhage*, the Root  
 being Membranous; but this not being agreed  
 to by the two Physicians for fear of an *Hæ-  
 morrhage*, I delay'd it. The *Excrecence* now  
 Weighs twelve Ounces, and is of the Shape  
 and Bigness of a Sheep's Heart, and the Pa-  
 tient is now pretty well recover'd, and has be-  
 gun to follow her Business; but I wish there  
 be no other Distemper in the *Uterus*. I had  
 also the good Fortune (by the Blessing of God)  
 to cure the same Woman of a *Scrophulous Tu-  
 mor* in her Neck nine Years ago, and her Son  
 of the same Distemper, (of five Years of Age,  
 two Years ago) that affected both his Knee  
 and Neck, and was so Emaciated and Weak,  
 that he could not turn himself in Bed or Cra-  
 dle for two Months; but now, beyond the  
 Expectation of any that then saw him, he not  
 only Walks entirely Straight, but enjoys a  
 perfect good Habit of Body: I shall not now  
 trouble you with a detail of the Cure, not be-  
 ing so uncommon, but conclude my self with  
 all due Respect,

SIR,

Your most humble and

Obliged Servant

London November  
 the 18th 1717.

John Gadderar.

*Printed and Sold by G. Strahan at the Golden-ball over against the Royal-Exchange, Cornhill. W. Mears at the Lamb without Temple-bar. And W. Innys at the Prince's-arms in St. Paul's Church-yard.*

**O** Steographia Elephantina : Or, A full and exact description of all the Bones of an Elephant, which died near Dundee, April the 27th 1706. with their several Dimensions. To which are premis'd, 1st, An Historical Account of the natural Endowments, and several wonderful Performances of Elephants, with the manner of taking and taming them. 2dly, A short Anatomical Account of their Parts. And added, 1st, An exact Account of the Weight of all the Bones of this Elephant. 2dly, The Method us'd in preparing and mounting the Skeleton. 3dly, Four large Copper Plates, wherein are represented the Figures of the stuff'd Skin, and prepared Skeleton, as they now stand in the publick Hall of Rarities at Dundee; with the separated Bones in several Views and other Parts of this Elephant. In a Letter to Dr. Hans Sloane, Fellow of the College of Physitians, and Secr. R. S. By Patrick Blair, M. D. F. R. S.



